SERVICE MANUAL

FLOOR & CEILING LARGE SERIES

ASF-09AL, ASF-12AL, ASF-18AL

sinclair
AIR CONDITIONING

1 . Introduction and Features

Main Function and Features:

- ★ **New style**
- ★ **Compact design**
- ★ **Low noise**
- ★ **Prolonged filter**
- ★ **Micro computer control**
- ★ **Complete unit of low height,sawing construction space**
- ★ **High cooling (heating) capacity, low noise, 3-speed motor for adjustment to meet different requirements**
- ★ **High-quality materaial and strict process control to ensure quality of the unit and prolong the use life**
- ★ **Compression-moulded water tray,pressure-viscosity insulating material to avoid condensation water**

Models

ASF-09AL
ASF-12AL
ASF-18AL

2 .Specifications and Technical Parameters

Model		ASF-09AL	
Function		COOLING	HEATING
Rated Voltage		220-240V~	
Rated Frequency		50Hz	
Total Capacity (W/Btu/h)		2500(W)	2800(W)
Power Input (W)		890	980
Rated Input (W)		1200	1140
Rated Current (A)		5.54	5.25
Air Flow Volume (m^3/h) (H/M/L)		550(H)	
Dehumidifying Volume (l/h)		1.6	
EER / C.O.P (W/W)		2.8	
Energy Class		/	
Indoor unit	Model of Indoor Unit	ASF-06AL	
	Fan Motor Speed (r/min) (H/M/L)	790/670/550	
	Output of Fan Motor (W)	10	
	Input of Heater (W)	/	
	Fan Motor Capacitor (uF)	1	
	Fan Motor RLA(A)	0.2	
	Fan Type-Piece	Centrifugal Fan- 2	
	Diameter-Length (mm)	ϕ125 × 134	
	Evaporator	Aluminum fin-copper tube	
	Pipe Diameter (mm)	ϕ7	
	Row-Fin Gap(mm)	2/1.6	
	Coil length (l) × height (H)× coil width (L)	586×25.4×247.6	
	Swing Motor Model	MP35CA	
	Output of Swing Motor (W)	2	
	Fuse (A)	PCB 3.15A	
	Sound Pressure Level dB (A) (H/M/L)	45/42/39	
	Sound Power Level dB(A) (H/M/L)	55/52/49	
	Dimension (W/H/D) (mm)	836/238/695	
	Dimension of Package (L/W/H) (mm)	935/805/295	
	Net Weight /Gross Weight (kg)	27/35.5	

Outdoor unit	Model of Outdoor Unit		ASF-09AL
	Compressor Manufacturer/trademark		Shenyang
	Compressor Model		ASG108CV-B7AT
	Compressor Type		rotary compressor
	L.R.A. (A)		18
	Compressor RLA(A)		4.28
	Compressor Power Input(W)		922
	Overload Protector		KA-172-LYGN914
	Throttling Method		Capillary
	Starting Method		Capacitor
	Working Temp Range (℃)		-50
	Condenser		Aluminum fin-copper tube
	Pipe Diameter (mm)		ϕ7
	Rows-Fin Gap(mm)		2-1.4
	Coil length (l)×height (H)×coil width (L)		714×25.4×495
	Fan Motor Speed (rpm)		850
	Output of Fan Motor (W)		30
	Fan Motor RLA(A)		0.484
	Fan Motor Capacitor (uF)		2
	Air Flow Volume of Outdoor Unit		/
	Fan Type-Piece		Axial fan –1
	Fan Diameter (mm)		ϕ400
	Defrosting Method		Auto defrost
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)		3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)		1.2
	Sound Pressure Level dB(A) (H/M/L)		54
	Sound Power Level dB(A) (H/M/L)		64
	Dimension (W/H/D) (mm)		848/320/540
	Dimension of Package (L/W/H)(mm)		878/360/590
	Net Weight /Gross Weight (kg)		30/34
	Refrigerant Charge (kg)		R410A/0.95
Conne-ction Pipe	Length (m)		5
	Gas additional charge(g/m)		30
	Outer Diameter	Liquid Pipe (mm)	6
		Gas Pipe (mm)	12
	Max Distance	Height (m)	5
		Length (m)	10

In case of any change of data,please refer to the nameplate.

Model		ASF-12AL	
Function		COOLING	HEATING
Rated Voltage		230V~	
Rated Frequency		50Hz	
Total Capacity (W/Btu/h)		3500(W)	3900(W)
Power Input (W)		1230	1290
Rated Input (W)		1570	1800
Rated Current (A)		8.05	7.5
Air Flow Volume (m^3/h) (H/M/L)		600(H)	
Dehumidifying Volume (l/h)		1.6	
EER / C.O.P (W/W)		2.8	
Energy Class			
Indoor unit	Model of Indoor Unit	ASF-12AL	
	Fan Motor Speed (r/min) (H/M/L)	790/670/550	
	Output of Fan Motor (W)	10	
	Input of Heater (W)	-	
	Fan Motor Capacitor (uF)	1.5	
	Fan Motor RLA(A)	0.15	
	Fan Type-Piece	Centrifugal Fan- 2	
	Diameter-Length (mm)	ϕ 125×134	
	Evaporator	Aluminum fin-copper tube	
	Pipe Diameter (mm)	ϕ 7	
	Row-Fin Gap(mm)	3/1.6	
	Coil length (l)×height (H) × coil width (L)	586×38.1×247.6	
	Swing Motor Model	MP35CA	
	Output of Swing Motor (W)	2	
	Fuse (A)	PCB 3.15A	
	Sound Pressure Level dB(A) (H/M/L)	46/42/38	
	Sound Power Level dB(A) (H/M/L)	56/52/48	
	Dimension (W/H/D) (mm)	836/238/695	
	Dimension of Package (L/W/H) (mm)	935/805/295	
	Net Weight /Gross Weight (kg)	27/35.5	

Outdoor unit	Model of Outdoor Unit		ASF-12AL
	Compressor Manufacturer/trademark		Shenyang
	Compressor Model		C-RV146H1C
	Compressor Type		rotary compressor
	L.R.A. (A)		30
	Compressor RLA(A)		5.7
	Compressor Power Input(W)		1245
	Overload Protector		B235-150-241E
	Throttling Method		Capillary
	Starting Method		Capacitor
	Working Temp Range (℃)		-50
	Condenser		Aluminum fin-copper tube
	Pipe Diameter (mm)		ϕ7
	Rows-Fin Gap(mm)		2-1.4
	Coil length (l)×height (H)×coil width (L)		714×25.4×495
	Fan Motor Speed (rpm)		850
	Output of Fan Motor (W)		30
	Fan Motor RLA(A)		0.15
	Fan Motor Capacitor (uF)		2.5
	Air Flow Volume of Outdoor Unit		----
	Fan Type-Piece		Axial fan –1
	Fan Diameter (mm)		ϕ400
	Defrosting Method		Auto defrost
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)		3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)		1.2
	Sound Pressure Level dB(A) (H/M/L)		56
	Sound Power Level dB(A) (H/M/L)		66
	Dimension (W/H/D) (mm)		848/320/540
	Dimension of Package (L/W/H)(mm)		878/360/590
	Net Weight /Gross Weight (kg)		40/44
	Refrigerant Charge (kg)		R410A/1.25
Conne-ction Pipe	Length (m)		5
	Gas additional charge(g/m)		30
	Outer Diameter	Liquid Pipe (mm)	6
		Gas Pipe (mm)	12
	Max Distance	Height (m)	5
		Length (m)	10

In case of any change of data,please refer to the nameplate.

Model		ASF-18AL	
Function		COOLING	HEATING
Rated Voltage		230V~	
Rated Frequency		50Hz	
Total Capacity (W/Btu/h)		5000(W)	5600(W)
Power Input (W)		1790	2090
Rated Input (W)		2210	2220
Rated Current (A)		11.5	11.5
Air Flow Volume (m^3/h) (H/M/L)		700(H)	
Dehumidifying Volume (l/h)		1.6	
EER / C.O.P (W/W)		2.8	
Energy Class		—	
Indoor unit	Model of Indoor Unit	ASF-18AL	
	Fan Motor Speed (r/min) (H/M/L)	1070/970/870	
	Output of Fan Motor (W)	40	
	Input of Heater (W)	-	
	Fan Motor Capacitor (uF)	3	
	Fan Motor RLA(A)	0.2	
	Fan Type-Piece	Centrifugal Fan- 2	
	Diameter-Length (mm)	ϕ125 × 134	
	Evaporator	Aluminum fin-copper tube	
	Pipe Diameter (mm)	ϕ7	
	Row-Fin Gap(mm)	3/1.6	
	Coil length (l)×height (H)× coil width (L)	586×38.1×266.6	
	Swing Motor Model	MP35CA	
	Output of Swing Motor (W)	2	
	Fuse (A)	PCB 3.15A	
	Sound Pressure Level dB(A) (H/M/L)	54/50/46	
	Sound Power Level dB(A) (H/M/L)	64/60/56	
	Dimension (W/H/D) (mm)	836/238/695	
	Dimension of Package (L/W/H) (mm)	935/805/295	
	Net Weight /Gross Weight (kg)	27/35.5	

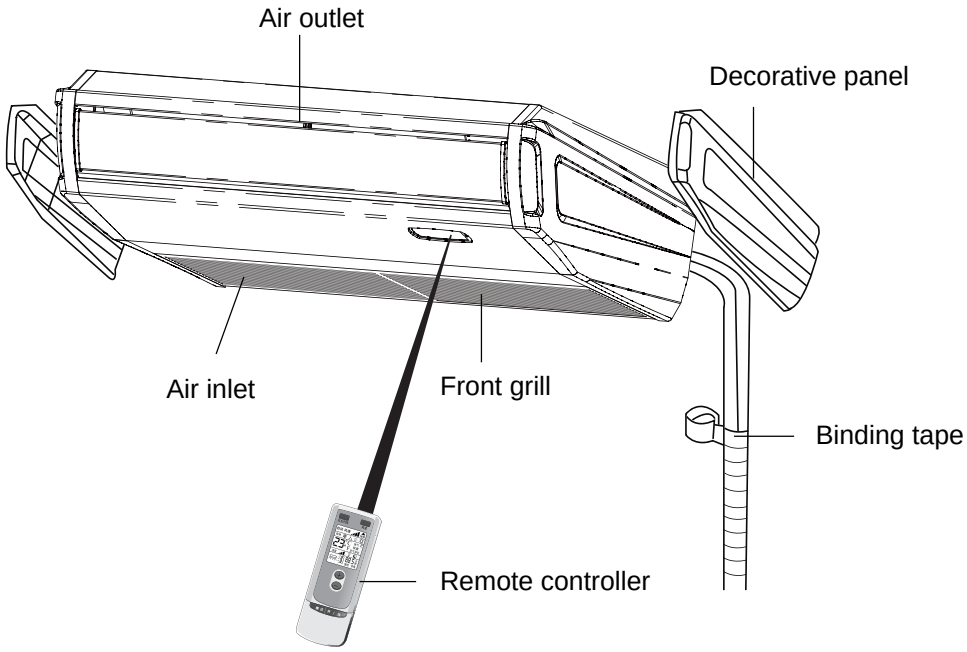
Outdoor unit	Model of Outdoor Unit		ASF-18AL
	Compressor Manufacturer/trademark		Hitachi
	Compressor Model		ASH218SV-C8LU
	Compressor Type		rotary compressor
	L.R.A. (A)		40
	Compressor RLA(A)		8.25
	Compressor Power Input(W)		1785
	Overload Protector		built in
	Throttling Method		Capillary
	Starting Method		Capacitor
	Working Temp Range (℃)		-50
	Condenser		Aluminum fin-copper tube
	Pipe Diameter (mm)		ф7
	Rows-Fin Gap(mm)		2-1.4
	Coil length (l)×height (H)×coil width (L)		753×25.4×655
	Fan Motor Speed (rpm)		780
	Output of Fan Motor (W)		60
	Fan Motor RLA(A)		0.2
	Fan Motor Capacitor (uF)		3
	Air Flow Volume of Outdoor Unit		----
	Fan Type-Piece		Axial fan –1
	Fan Diameter (mm)		ф460
	Defrosting Method		Auto defrost
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)		3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)		1.2
	Sound Pressure Level dB (A) (H/M/L)		59
	Sound Power Level dB (A) (H/M/L)		69
	Dimension (W/H/D) (mm)		920/378/690
	Dimension of Package (L/W/H)(mm)		994/428/750
	Net Weight /Gross Weight (kg)		52/57
	Refrigerant Charge (kg)		R410A/1.5
Conne-ction Pipe	Length (m)		5
	Gas additional charge(g/m)		30
	Outer Diameter	Liquid Pipe (mm)	6
		Gas Pipe (mm)	12
	Max Distance	Height (m)	5
		Length (m)	10

In case of any change of data,please refer to the nameplate.

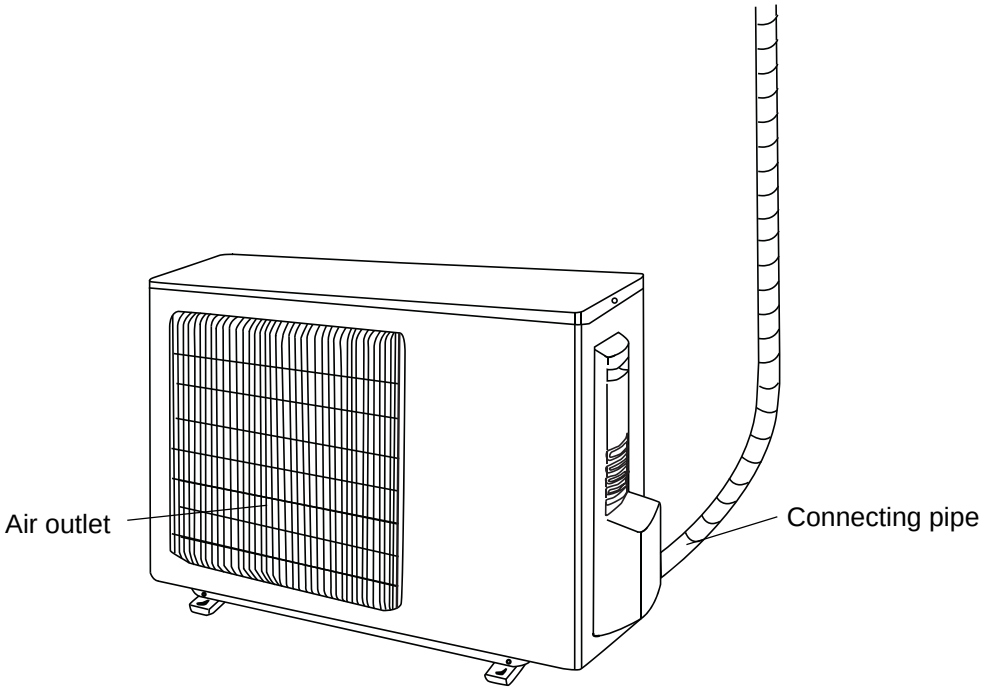
3. Component Name

GTHN09A4NK3AA GTHN12A4NK3AA

Indoor Unit

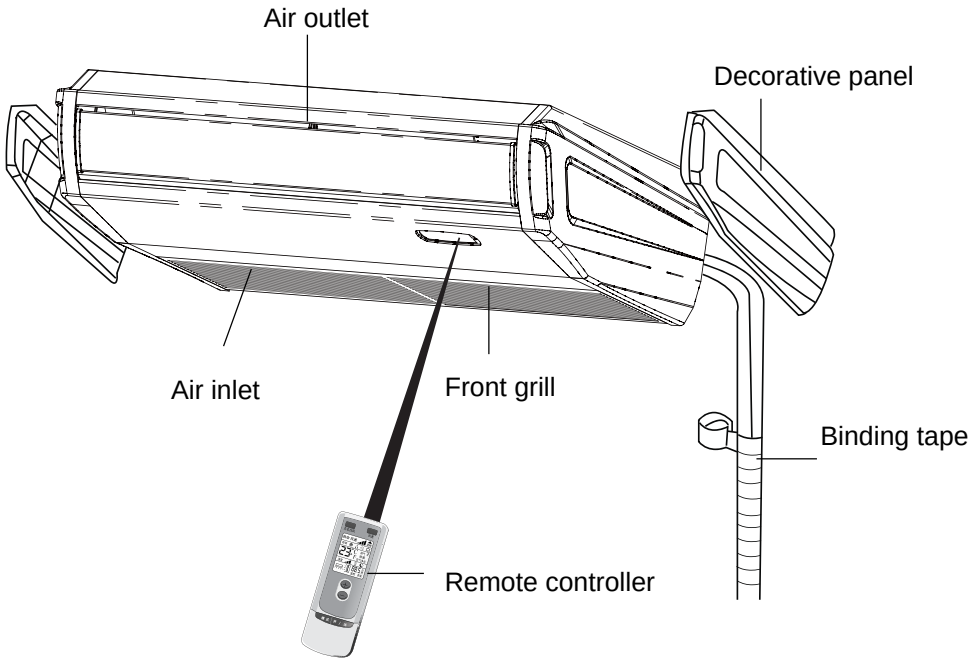


Outdoor Unit

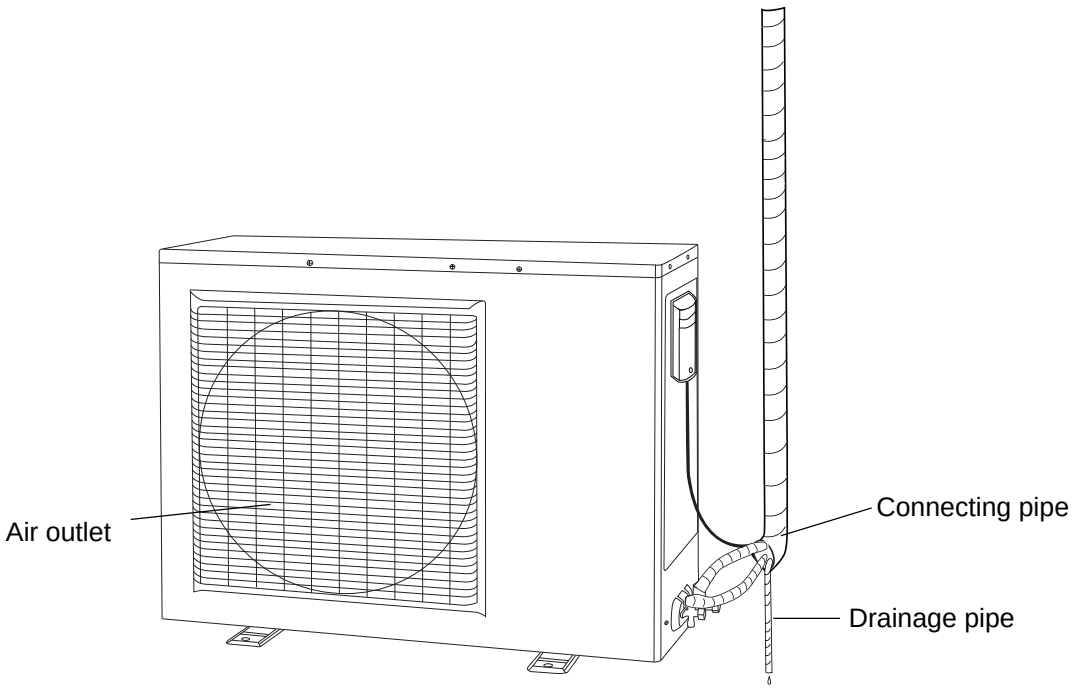


GTHN18A4NK3AA

Indoor Unit

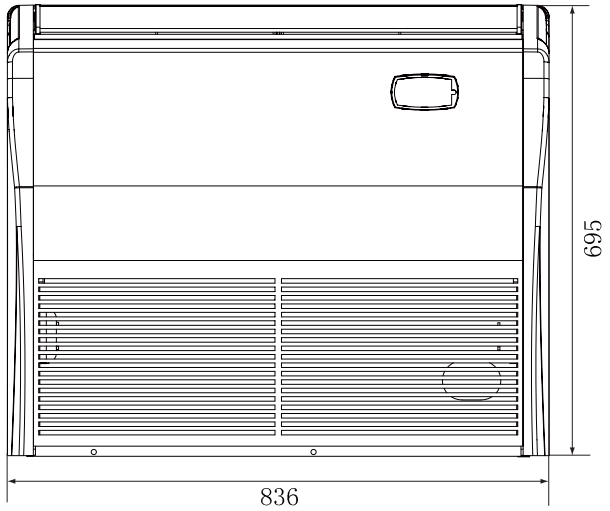


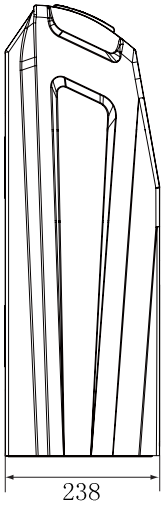
Outdoor Unit

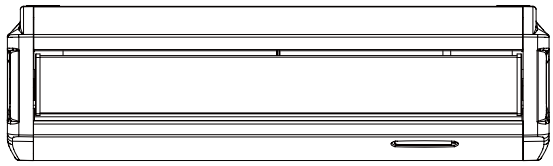


4. Overall and Installing Dimension

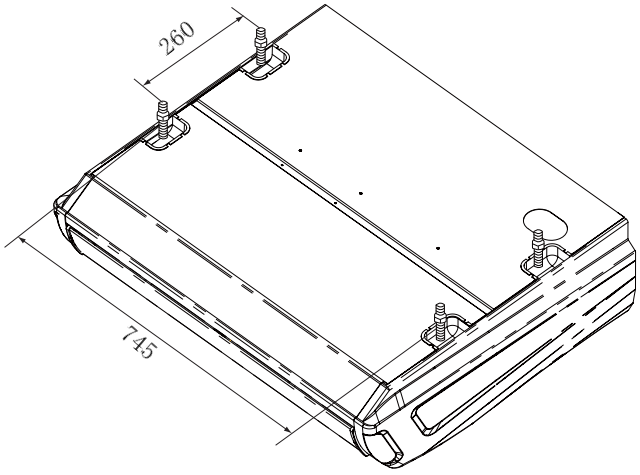
Overall and Installing Dimension of Indoor Unit



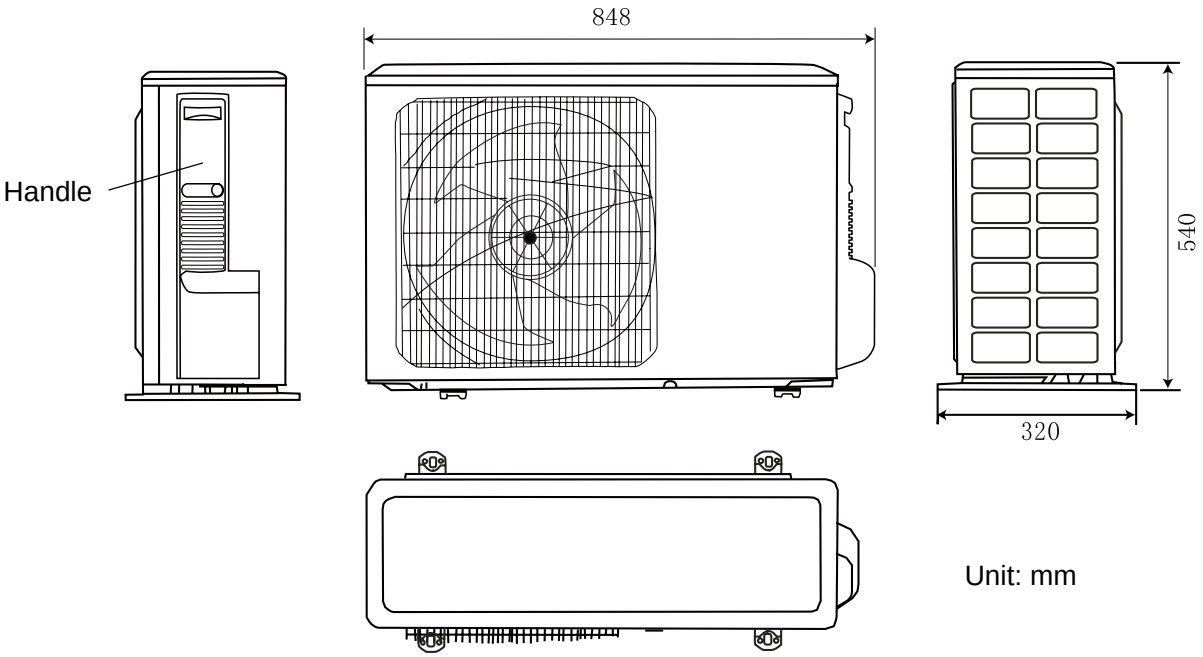




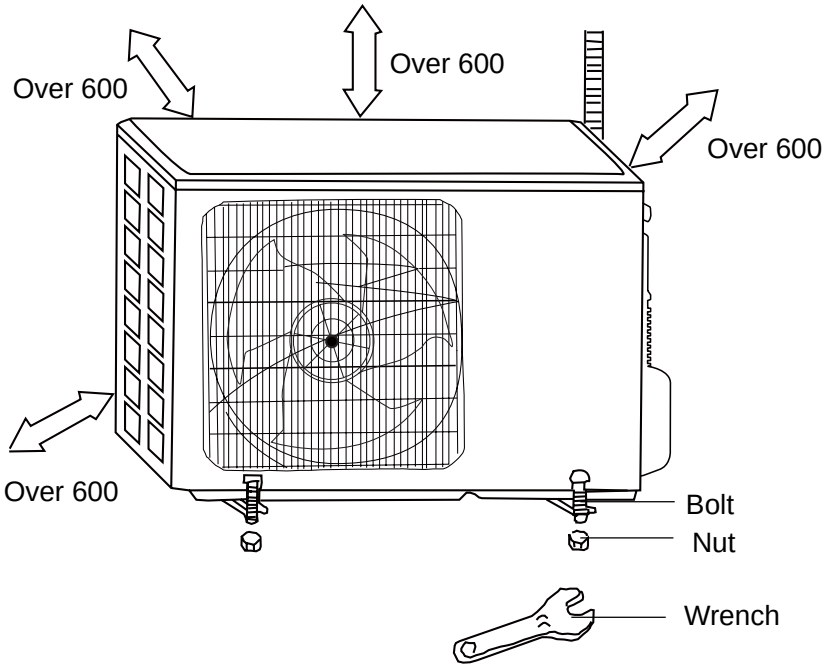
Unit: mm



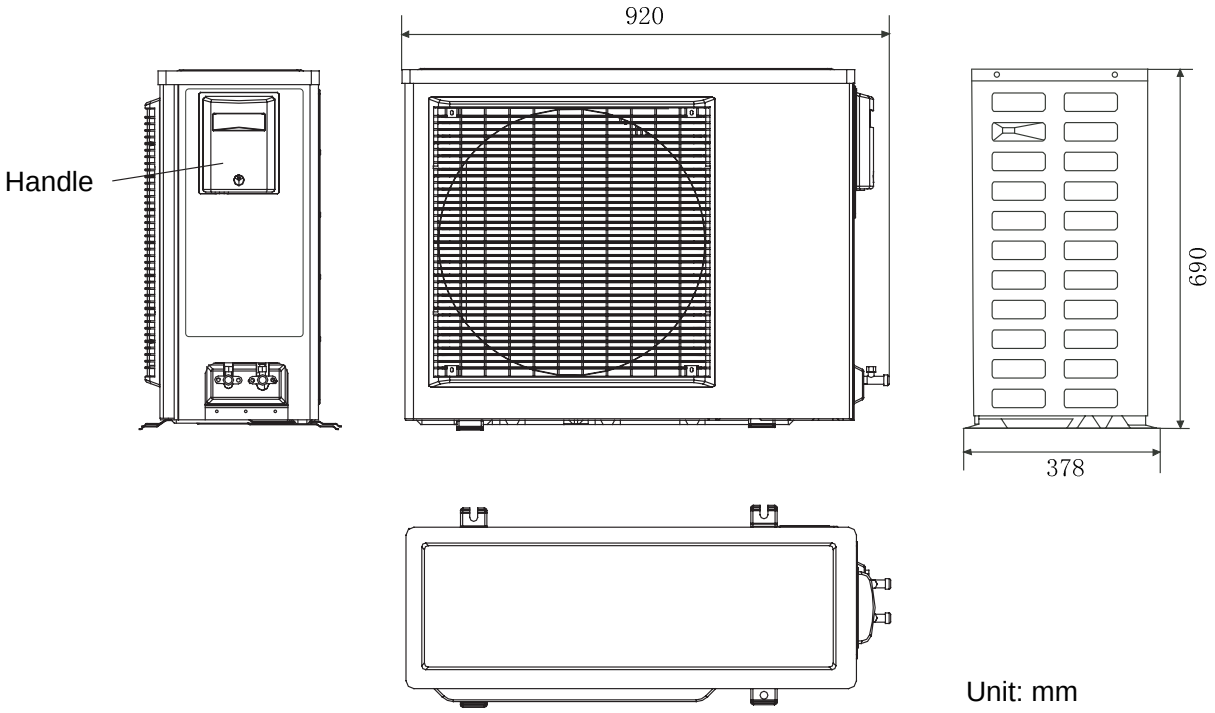
Overall and Installing Dimension of Outdoor Unit GTHN09A4NK3AA GTHN12A4NK3AA



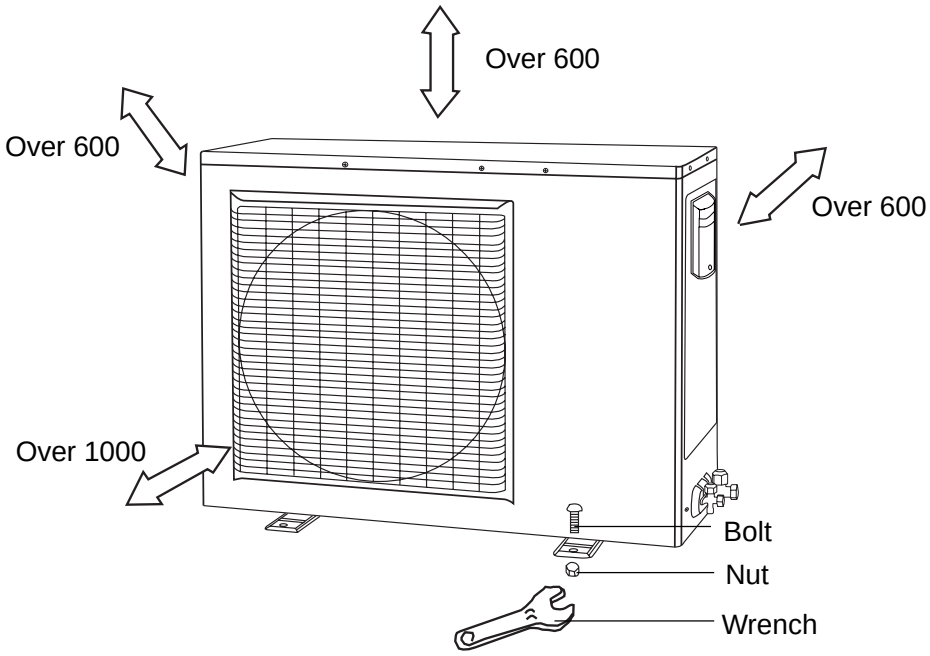
Unit: mm



Overall and Installing Dimension of Outdoor Unit GTHN18A4NK3AA

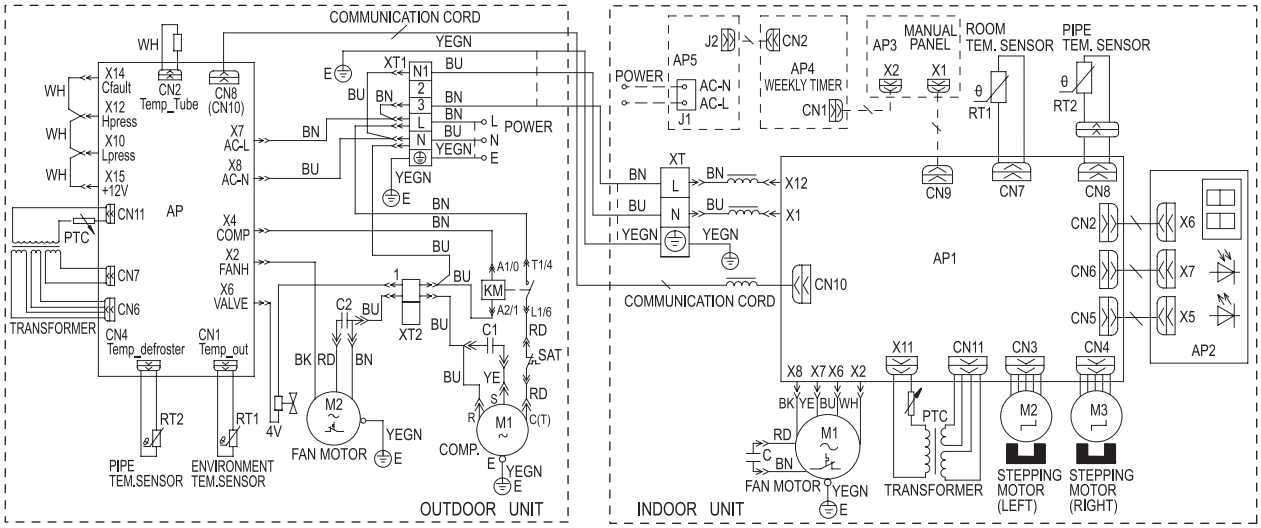


Unit: mm

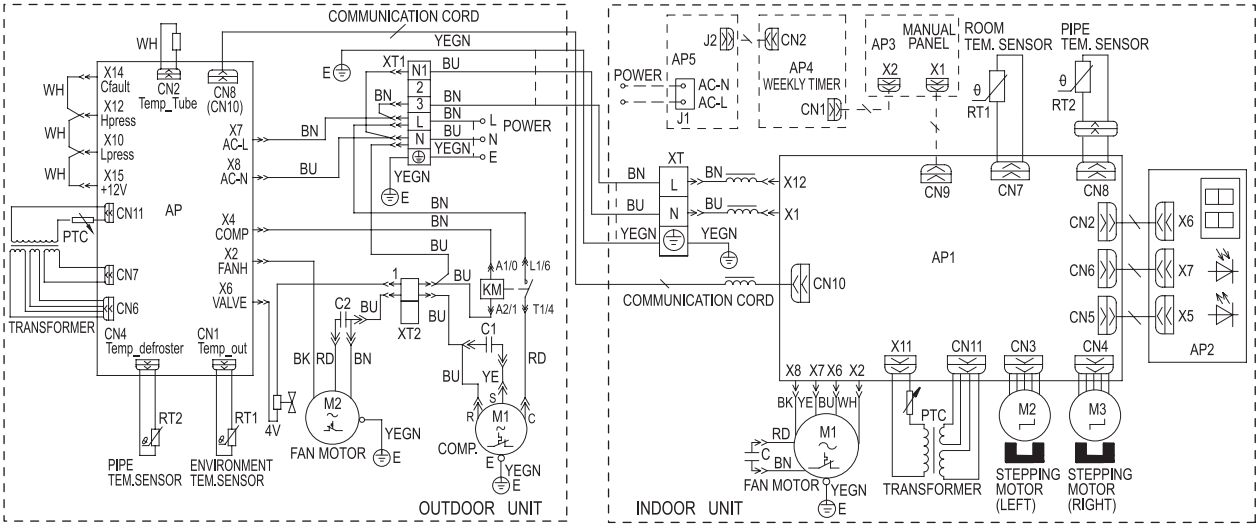


5. Electrical Diagram

ASF-09AL, ASF-12AL



ASF-18AL



In case of any change in the Electrical Diagram shown above, please follow the drawing on cabinet.

6 Controller Function Manual and Operation Instruction

Controller Function Manual

1 Temperature Parameters

- ◆ Indoor preset temperature (Tpreset)
- ◆ Indoor ambient temperature (Tamb.)

2 Basic Functions

Under each mode, once the compressor is started,it won't stop with the temperature spot within 6min and once stopped, it won't start with the temperature spot within 3min.

(1) Cooling Mode

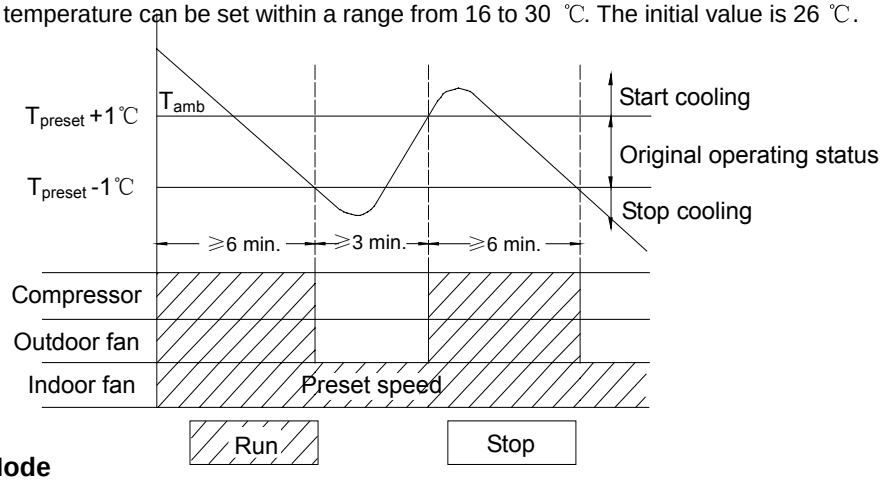
1.Cooling Conditions and Process

When $T_{amb.} \geqslant T_{preset} +1℃$, the unit will run under cooling mode, in which case the compressor and outdoor fan will be started and the indoor fan will run at preset speed.

When $T_{amb} \leqslant T_{preset} -1℃$, the unit will be stopped under cooling mode, in which case the compressor and outdoor fan will be stopped and the indoor fan will run at preset speed.

When $T_{preset} -1℃ < T_{amb.} < T_{preset} +1℃$, the unit will maintain its original operating status.

- ➢ Under this mode, the temperature can be set within a range from 16 to 30 ℃. The initial value is 26 ℃.



(2) Dehumidifying Mode

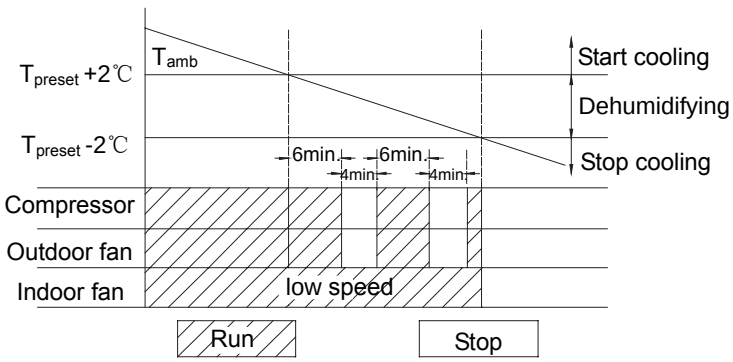
1.Dehumidifying Conditions and Process

When $T_{amb.} > T_{preset} +2℃$, the unit will run under cooling mode, in which case the compressor and outdoor fan will be started and the indoor fan will run at low speed.

When $T_{preset} -2℃ \leqslant T_{amb.} \leqslant T_{preset} -2℃$, the compressor, indoor unit and outdoor unit will run 6 minutes and stop 4 minutes in repeated cycle, while the indoor fan will run at low speed.

When $T_{amb.} < T_{preset} -2℃$, the unit stops under cooling mode and compressor and outdoor fan will be stopped.

- ➢ Under dehumidifying mode, the temperature can be set within a range from 16 to 30℃.Initial value is 24 ℃ .



(3) Fan Mode

Under this mode,all loads of outdoor unit will be stopped.Malfunction can be detected but not handled.
Indoor fan runs at preset speed.There are four kinds of fan speed for selection:Hi,Mid,Low, Auto.

The auto fan speed is constant mid grade.

The temperature is unadjustable, and 26 ℃ is displayed.

(4) Heating Mode

1.Heating Conditions and Process

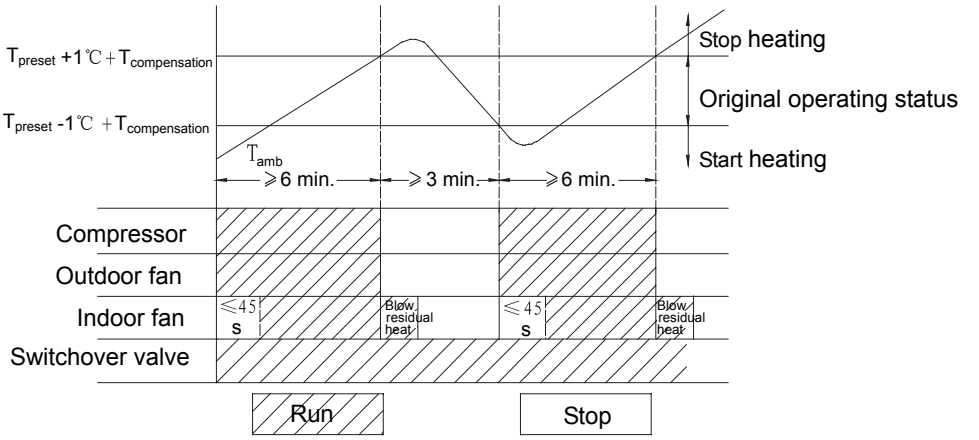
When air inlet temp sensor is used ,$T_{compensation}$ =2℃ , when manual controller temp sensor is used $T_{compensation}$ =0℃.

When $T_{amb.} \leqslant T_{preset}$ -1℃+ $T_{compensation}$,the unit will run under heating mode, compressor and outdoor fan will enter into running.The indoor fan will run in 45s at most.(If compressor is not started, the indoor fan will stop.)

If $T_{amb.} \geqslant T_{preset}$ +1℃+$T_{compensation}$ the compressor and outdoor fan will be stopped and the 4-way valve is still energized. Indoor guide louver is at level position and indoor fan runs at blowing low speed.When the system is stopped, the indoor fan will stop after blowing 60s.

When T_{preset} -1℃ +$T_{compensation}$ <$T_{amb.}$< T_{preset} +1℃+$T_{compensation}$, the unit will maintain its original operating status.

➢Under heating mode, the temperature can be set from 16 to 30℃.Initial value is 20℃.



2.Defrosting Conditions and Process

Upon defrosting condition is met,compressor, indoor fan and outdoor fan will be stopped at the same time.3 s later, the 4-way valve will be closed.Thirty seconds after the 4-way valve is closed,the compressor will be started.If it is detected the defrosting is finished,the compressor will be stopped and the 4-way valve will be energized. After 30 seconds, the outdoor fan will be started and the indoor fan will run in 45s at most.The entire defrosting process won't exceed 10 min.

(5) Auto Mode (only for the inodor unit with manual controller)

Under this mode, the system will automatically select its run mode (cooling, dehumidifying or heating) with the change of ambient temperature.

(6) Forced Running Mode (only for the inodor unit with manual controller)

For the first energization of unit at off state, press TEMP ▲ button for 5 successive seconds into heating mode, in this case, the compressor and 4-way valve will start and indoor fan will run at high speed.The unit will automatically stop in 5min or can be stopped for testing by pressing ON/OFF button.

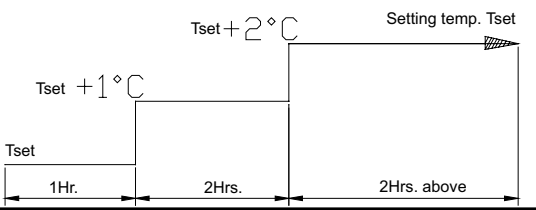
For the first energization of unit at off state, press TEMP ▼ button for 5 successive seconds into cooling mode, in this case, the compressor and 4-way valve will start and indoor fan will run at high speed.The unit will automatically stop in 5min or can be stopped for testing by pressing ON/OFF button.

3 Other Control

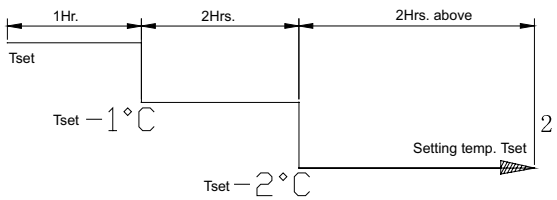
(1)Sleeping Function

For floor ceiling series unit,its sleeping function only can be set by remote controller.

Setting SLEEP function under COOL or DEHUMIDIFY mode, the preset temperature will automatically rise by 1℃ after 1 hour and rise by another 1℃ after 2 hours. Preset temperature will rise by 2℃ in total within 2 hours. After that, the unit will run at this preset temperature.



Setting SLEEP function under HEAT mode, the preset temperature will automatically decrease by 1℃ after 1hr and decrease by another 1℃ after 2 hours.Preset emperature will decrease by 2℃ in total within 2 hours. After that, the unit will run at this preset temperature.



No sleep function under FAN or AUTO mode.

(2) Timer Function

Timer function can be set only without malfucntion or protection.Once timer on/off has been set but malfunction or proctection happens and is cleared then, the timer will continue to display if the time hasn't reached.

Timer ON function can be set when the unit is at off mode. Upon the time as set , the controller will run under preset mode. The interval of time setting is 0.5h and can be set within 0.5-24h in cycle.

Timer OFF function can be set when the unit is at on mode. Upon the time as set , the system will be stopped.The interval of time setting is 0.5h and can be set within 0.5-24h in cycle.

(3) Control of Swing Motor

The swing will be reset when stopping or electrifying the unit.

If swing motor is started and indor fan runs normally, the louver will swing to or fro .It will stop at present position if swing is stopped.

When the unit is on without swing or blowing residual heat setting, the lover will stop at 60 degrees.

If the unit stops for malfunction or defrosting during running process of indoor fan,the louver will stop at present position.

(4) Buzzer

When the controller is energized or receives valid key-press signal, the buzzer will give out a beep.

(5) Automatic Control of Indoor Fan Speed

Under cooling or heating mode, the indoor fan will automatically select its speed, i.e. high, medium or low, with the change of ambient temperature. Once a speed is activated, it can be switched in 30s at least according to the condition.

(6) LED on Receive Board of Controller

Power LED: It is bright when energized and black when de-energized.

Cooling LED: It is bright under cooling,dehumidifying,auto cooling or auto dehumidifying mode and black under other modes.

Heating LED: It is bright under heating or auto heating and black under other modes

Dual-eight display of malfunction:Malfunction codes will be displayed according to priority level of them.(The manual controller will also display the codes.)

4. Protection Measures

(1) Indoor Antifreeze Protection

If antifreeze protection is detected under cooling or dehumidifying mode,the compressor, outdoor fan will stop, indoor fan will keep original state and LED will blink(or error code E2 is displayed).When antifreeze protection is solved and the compressor has been stopped for 3 min, outdoor fan and compressor will resume running.

(2) High Pressure Protection(E1),Low Pressure Protection(E3) and Overload Protection (E5)

No these function for this unit.The controller is current, so the external leading wire is shielded.If the connecting wire is loose, the unit will be stopped for controller potection and corresponding codes will be displayed.

Handling Method:Cut off the power after stop of the unit.Open the electric box of outdoor unit.Connect the wires on mainboard terminals X14,X12,X10 and X15.Re-energize the unit.

(3) Indoor High Temperature Protection

If it is detected that the evaporator temperature (Tevap.) under heating mode is high, the indoor fan will automatically run at high speed.If the temperature continuously increases to specified value, the outdoor fan will stop.If temperature decreases, outdoor fan will start.If the temperature continuously decreases to normal value, the indoor fan will resume original setting fan speed.

(4) Communication Malfunction

If outdoor unit after electrifying shows that there is no return of signal from indoor unit in successive 30s , it indicates that communication malfunction of indoor unit exists, in which case, compressor and outdoor fan will stop.The 4-way valve will stop after the compressor has been stopped for 2 min during heating.

(4) Communication Malfunction

If outdoor unit after electrifying shows that there is no return of signal from indoor unit in successive 30s , it indicates that communication malfunction of indoor unit exists, in which case, compressor and outdoor fan will stop.The 4-way valve will stop after the compressor has been stopped for 2 min during heating.

If the indoor unit does not receive signal from outdoor unit in successive 1min,it indicates communication malfunction, in which case, indoor unit will stop and LED will blink.If display board does not receive signal from outdoor unit in successive 1min ,it indicates communication malfunction, in which case malfunction will display but the unit does not act.After communication resumes, the system will run under previous running mode.

(5) Temperature Sensor Malfunction

If short circuit or open circuit is detected, temp sensor exists.

1 Indoor Ambient Temp Sensor Malfunction

If indoor temp sensor short-circuits or open-circuits, the indoor ambient temp will be forced to be 24℃ .The system has not any reaction except LED blinks or error code F0 is displayed.It will resume running after the malfunction is solved.Only malfunction is displayed under fan mode but indoor fan runs normally.It will disappear after the malfunction is solved.

2 Indoor Evaporator Temp Sensor Malfunction

If indoor evaporator temp sensor short-circuits or open-circuits, the system will be stopped under cooling or dehumidifying mode and LED blinks or error code F1 is displayed.It will resume running and malfunction display will disappear after the malfunction is solved. All loads except 4-way valve are stopped under heating mode and LED blinks or error code F1 is displayed.The system will automatically resume running after the malfunction is solved. Only malfunction is displayed under fan mode but indoor fan runs normally.It will disappear after the malfunction is solved.

3 Condenser Temp Sensor Malfunction

If condenser temp sensor short-circuits or open-circuits, the system will be stopped under cooling or dehumidifying mode and LED blinks or error code F2 is displayed.It will resume running and malfunction display will disappear after the malfunction is solved. All loads except 4-way valve are stopped under heating mode and LED blinks or error code F2 is displayed.The system will automatically resume running after the malfunction is solved. Only malfunction is displayed under fan mode but indoor fan runs normally.It will disappear after the malfunction is solved.

4 Outdoor Ambient Temp Sensor Malfunction

If outdoor temp sensor short-circuits or open-circuits, the system will be stopped under cooling or dehumidifying mode and LED blinks or error code F3 is displayed.It will resume running and malfunction display will disappear after the malfunction is solved. All loads except 4-way valve are stopped under heating mode and LED blinks or error code F3 is displayed.The system will automatically resume running after the malfunction is solved. Only malfunction is displayed under fan mode but indoor fan runs normally.It will disappear after the malfunction is solved.

(6) Exhaust High-temp Protection (E4) and Exhasut Temp Sensor Malfunction (F4)

There is no this protection and exhaust temp sensor for this unit.But the controller is current, so if circuit malfunction is shielded (shielding abnormality or broken circuit of resistance,or connecting wire is loose or has poor contact or controller has malfunction) the above codes may be mis-displayed.

(7) Memory Function

Memorize mode, swing, setting temp, setting fan speed and ON/OFF.

7 Disassembly Procedures

7. 1 Disassembly Procedures for Indoor Unit

Operating Procedures / Photos

1.Disassemble Front Grill and Filter

Manually pull the clasp 2 of front grill downwards to open the front grill.Loose the clasp 1 with pincers to remove the front grill.

Top the air filter to pull out the clasps at 2 sides and pull it forward to remove it.

Fig.7-1,7-2

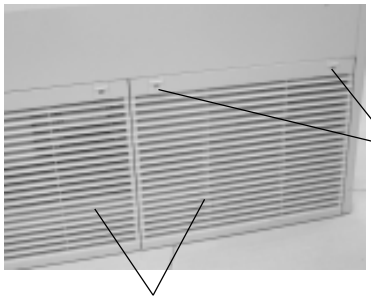


Fig.7-1

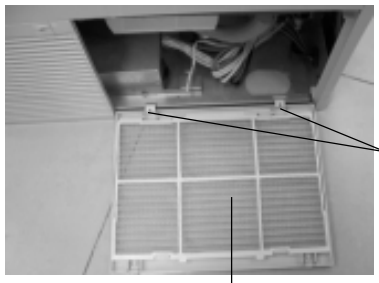


Fig.7-2

2.Disassemble Left and Right Decorative Panels

Unscrew the 2 screws on the left and right decorative panels and them push the panels upwards forciblely to take them out.

Fig.7-3,7-4

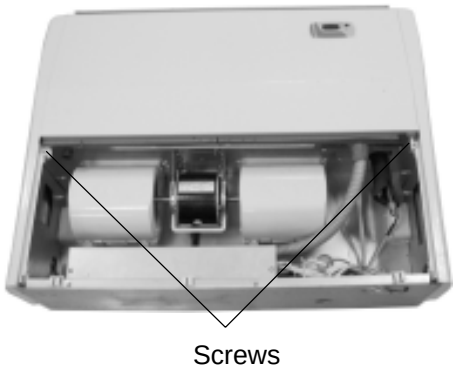


Fig.7-3

Operating Procedures / Photos

Fig.7-4

3.Disassemble Front Panel

Unscrew the 4 screws at the front panel and 3 screws in the sponge.Lift the front panel upwards to remove it.

Fig.7.5

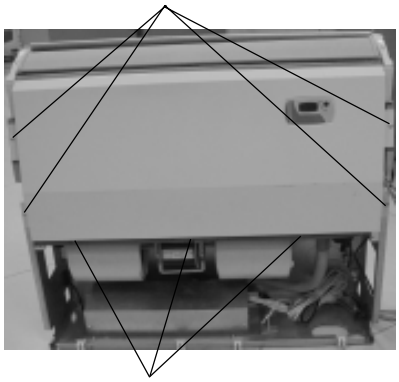


Fig.7.5

4.Disassemble Rear Side Plate (air outlet)

Remove the flanneletteand unscrew the 2 screws at the rear side plate to remove it.

Fig.7-6

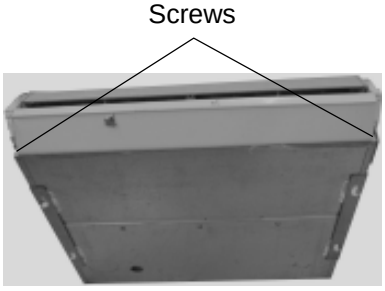


Fig.7.6

5.Disassemble Guide Louver

Top the middle of guide louver and pull it out from the middle clasp and then bend the right and left axile bushes to take the guide louver out.

Fig.7.7

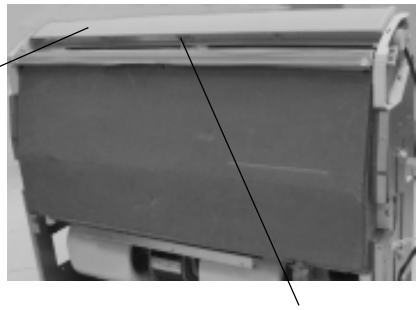


Fig.7.7

Operating Procedures / Photos

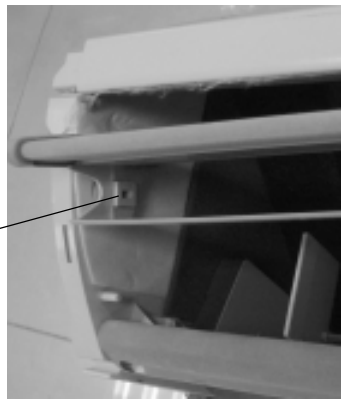


Fig.7-8

6.Disassemble Water Tray Sub-assy

Unscrew the 4 screws fixing the right and left side of the water tray to remove it.

Fig.7-9

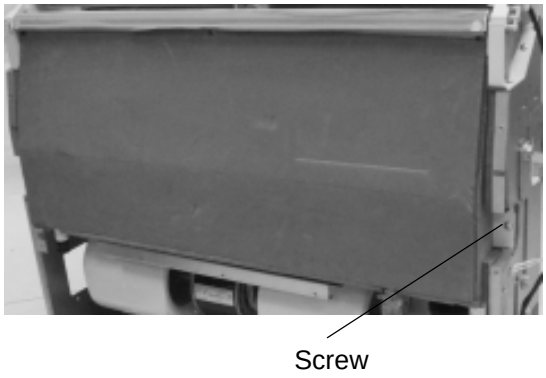


Fig.7-9

7.Disassemble Evaporator Assy

Unscrew the 4 screws fixing the cover plate of evaporator.Pull out the 3 temp sensors on the pipes and then unscrew the 2 screws at the left side of evaporator to remove it by inclined lift.

Fig.7-10,7-11,7-12

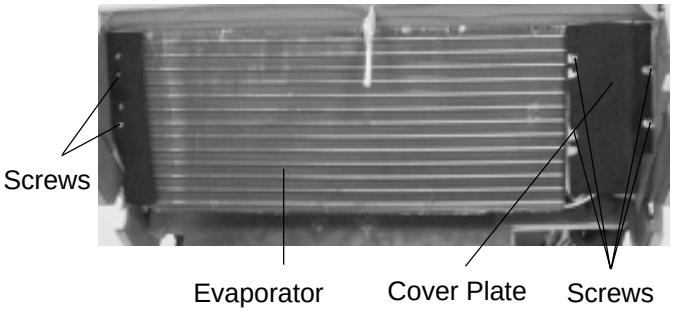


Fig.7-10

Operating Procedures / Photos

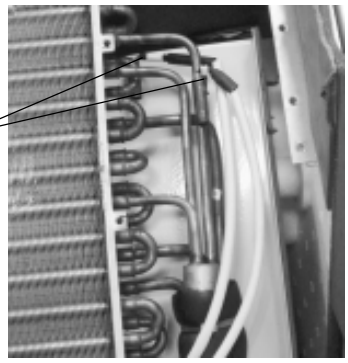


Fig.7-11

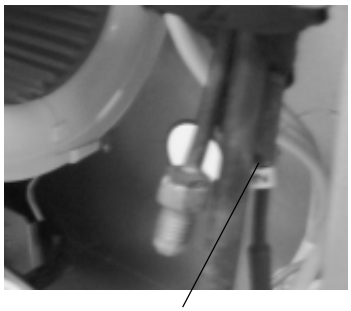


Fig.7-12

8.Disassemble Electric Box Assy

Unscrew the 2 screws fixing the electric box cover to pull out the cover upwards.Loosen the wiring terminals of fan motor and guide louver motor and then remove the ambient temp sensor bound by the tie line at the side of elelctric box.At last unscrew the 3 screws fixing the electric box to remove it.

Fig.7-13,7-14

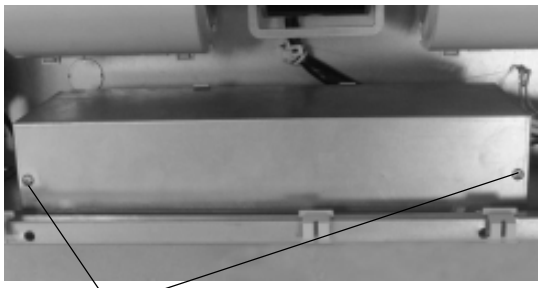


Fig.7-13

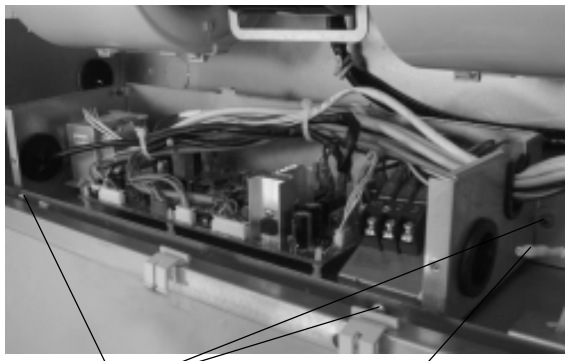


Fig.7-14

9.Disassemble Cross Flow Fan

Loosen the clasps in and at the front and back of the propeller housing to remove it from the motor support.Unscrew the 1 screw fixing cross flow fan with a inner hexagon spanner to remove it.

Fig.7-15,7-16

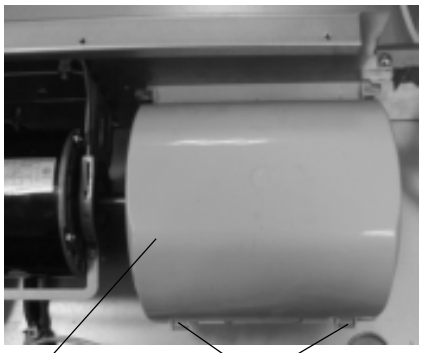


Fig.7-15

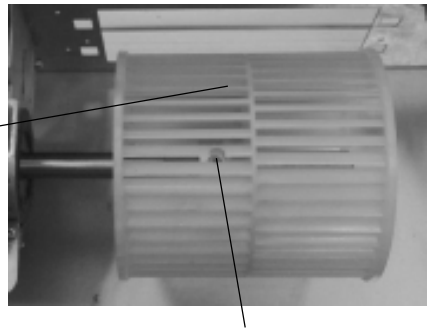


Fig.7-16

10.Disassemble Motor

Loosen the 4 nuts fixing the support to remove the motor sub-assy and then unscrew the 2 bolts onthe clamping band to remove the motor.

Fig.7-17

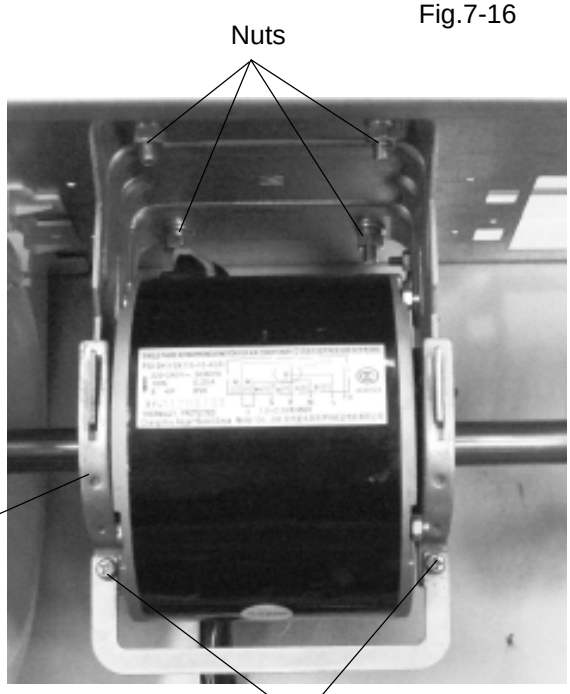


Fig.7-17

7.2 Disassembly Procedures for Outdoor Unit

Operating Procedures / Photos (9K,12K)

1.Disassemble Big Handle

Unscrew the screw fixing the big handle,and then remove it downwards to take it out.

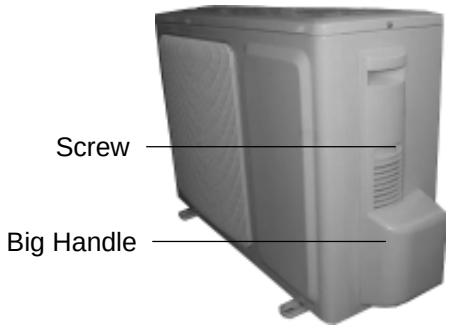


Fig.7-18

2.Disassemble Top Cover

Unscrew the 2 screws fixing left side of top cover and the 1 screw fixing the right side to remove the top cover.

Fig.7-19

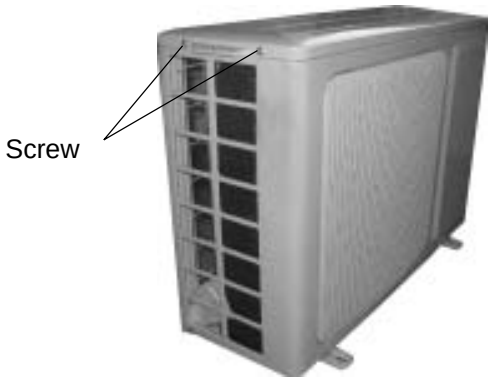


Fig.7-19

3.Disassemble Rear Grill

Unscrew the 4 screws fixing the rear grill to remove it.

Fig.7-20

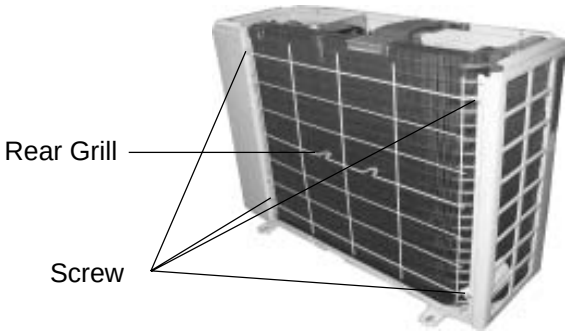


Fig.7-20

Operating Procedures / Photos

4.Disassemble Front Panel

Unscrew the 5 screws fixing the panel and dextro-rotate the front panel to pull it out from groove.

Fig.7-21

Fig.7-21

5.Disassemble Electric Box

Unscrew the 3 screws fixing the electric box, and then loosen the terminals of compressor and 4-way valve to take out the electric box.

Fig.7-22,7-23

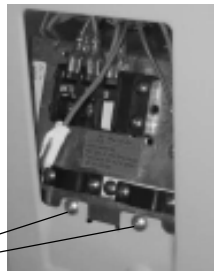


Fig.7-22

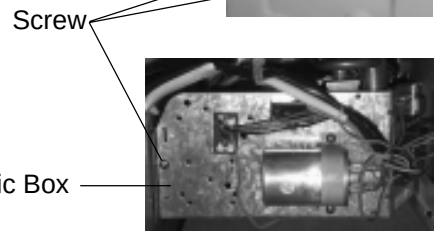


Fig.7-23

6.Disassemble Right Side Plate

Unscrew the 5 screws fixing the right side plate to remove it.

Fig.7-24

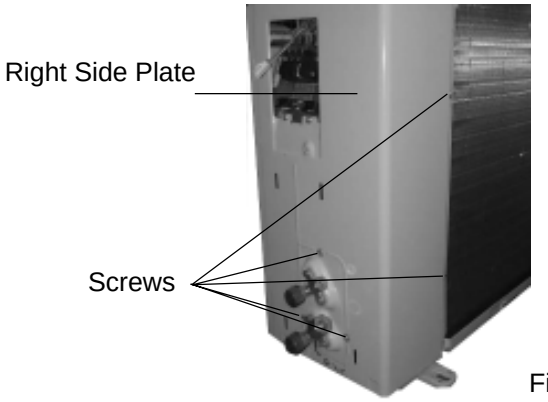


Fig.7-24

Operating Procedures / Photos

7.Disassemble Axial Flow Fan

Loosen the fastening nut fixing the axial flow fan with a spanner ,and then take out the nut,spring gasket and flap gasket in turn.

Fig.7-25

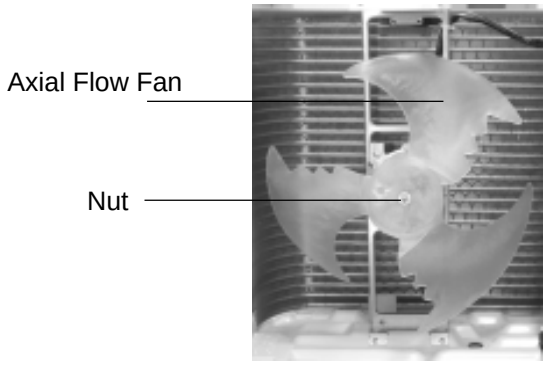


Fig.7-25

8.Disassemble Motor and Motor Support

Unscrew the 4 screws fixing the motor to take out the motor,and then unscrew the 2 screws fixing the motor support to take it out.

Fig.7-26

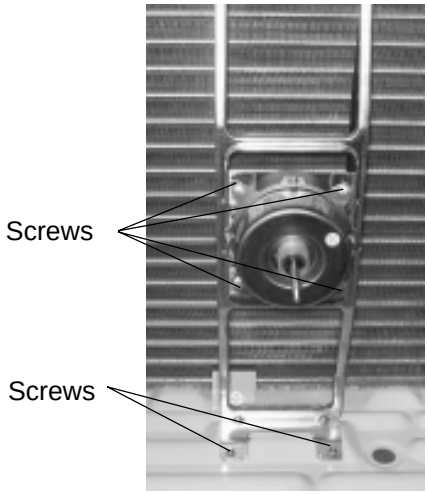


Fig.7-26

9.Disassemble Four-way Valve

Unscrew the fastening nut of the four-way valve coil and remove the coil. Wrap the four-way valve with wet cotton and unsolder the 4 weld spots connecting the four-way valve to take it out. (Note:Refrigerant should be discharged firstly.)

Welding process should be as quick as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.

Fig.7-27

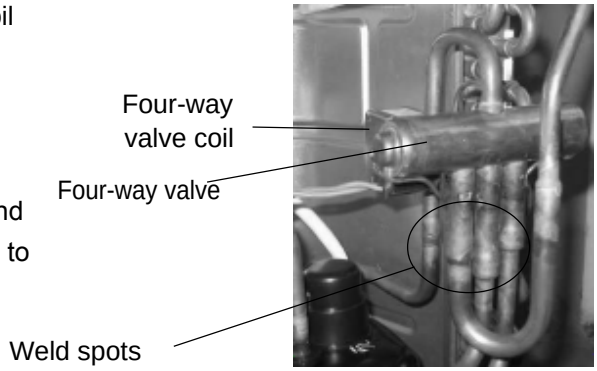


Fig.7-27

Operating Procedures / Photos

10. Disassemble Capillary

Respectively unsolder the weld spots of main capillary and auxiliary capillary to take off the capillary.

Fig.7-28

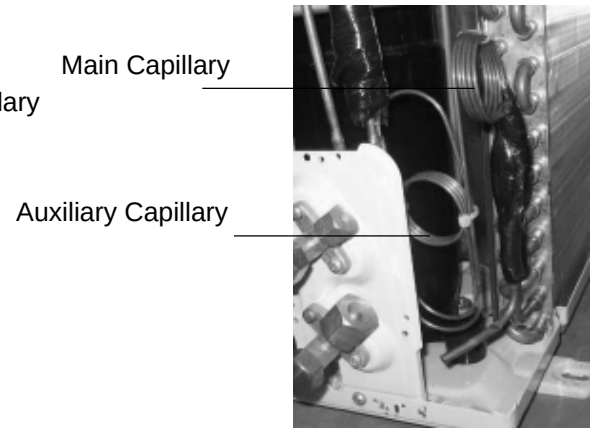


Fig.7-28

11.Disassemble Gas and Liquid Valves

Unscrew the two bolts fixing gas valve and liquid valve.Unsolder weld spots between gas valve and and air-return pipe to remove the gas valve.

Unscrew the two bolts fixing liquid valve. Unsolder weld spots between liquid valve and capillary to remove the liquid valve.

(Note:During unsoldering ,wrap the valves with wet cloth to avoid damage for high temperature.)

Fig.7-29

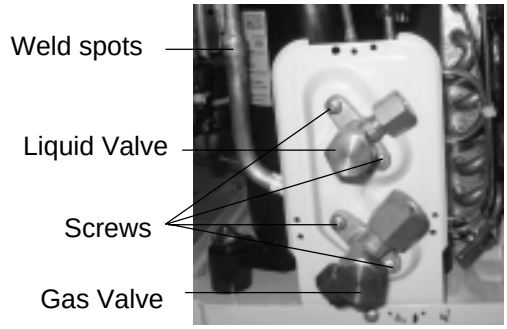


Fig.7-29

12.Disassemble Compressor

Unscrew the three foot-nuts at the foot of the compressor. Unsolder the suction and the discharge pipes of the compressor,and then carefully remove the pipes to take out the compressor.

Fig.7-30

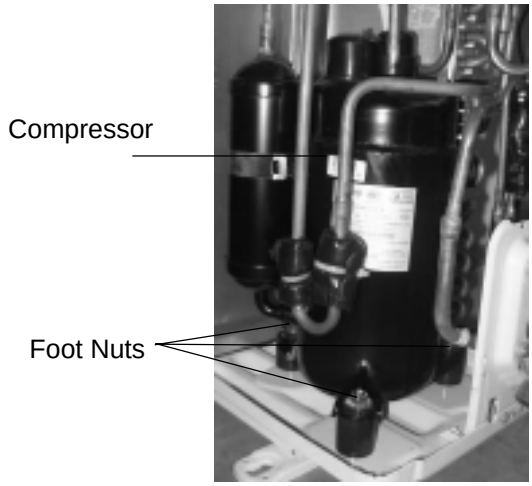


Fig.7-30

7.3 Disassembly Procedure of Outdoor Unit

Operating Procedures / Photos (18K)

1.Disassemble Top Cover

Unscrew the screws fixing the top cover, and then lift the top cover to remove it.

Fig.7-31

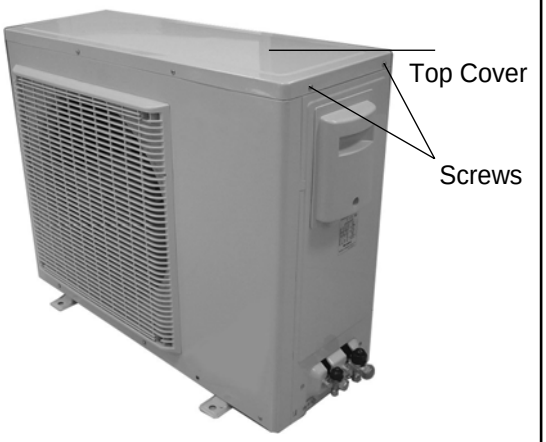


Fig.7-31

2.Disassemble Handle

Unscrew the screw fixing the handle,and then push it downwards to take it out.

Fig.7-32

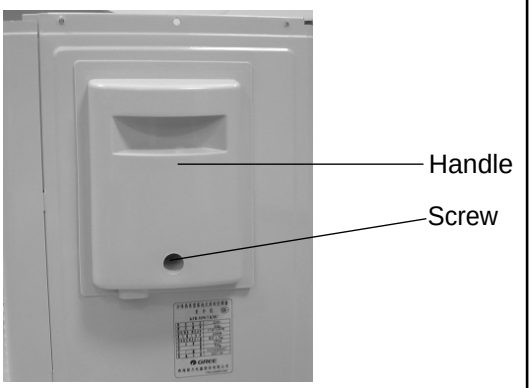


Fig.7-32

3.Disassemble Rear Side Plate Sub-assay

Unscrew the screws fixing the rear grill and rear side plate to remove rear side plate sub-assy after removing rear grill.

Fig.7-33

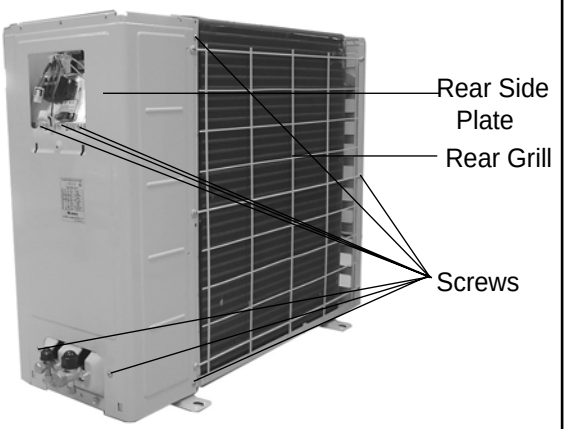


Fig.7-33

Operating Procedures / Photos

4.Disassemble Front Grill

Unscrew the screws fixing the front grill ,and then lift it upwards to remove it.

Fig.7-34

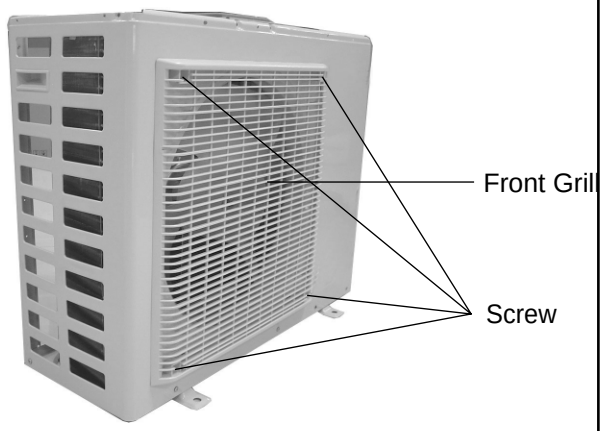


Fig.7-34

5.Disassemble Cabinet

Unscrew the screws fixing the cabinet to remove it.

Fig.7-35

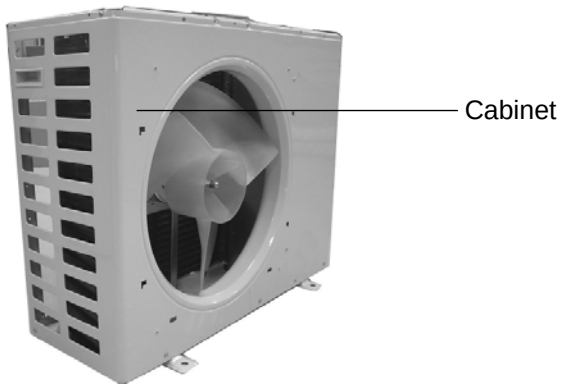


Fig.7-35

6.Disassemble Electric Box Sub-assy

Unscrew the 4 screws fixing electric box to pull out the connection line between fan motor and electric box and then lift the electric box to take it out.

Fig.7-36

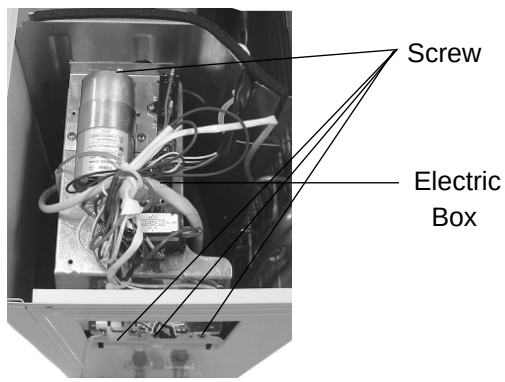


Fig.7-36

Operating Procedures / Photos

7.Disassemble Gas and Liquid Valves

Unsolder the pipeline connecting with valves (to prevent soldering gun from burning out the chassis).Unscrew 2 bolts fixing gas valve ,and then unsolder the weld spot between pipeline and gas valve to remove gas valve. Unscrew the 2 bolts fixing liquid valve ,and then unsolder the weld spots between pipeline and liquid valve to remove liquid valve.

(Note:During unsoldering ,wrap the valves with wet cloth to avoid damage for high temperature.)

Fig.7-37

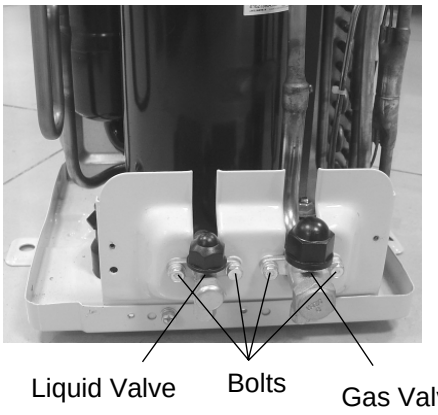


Fig.7-37

8.Disassemble Axial Flow Fan

Unscrew the nut fixing the fan with a spanner to take out the fan .

Fig.7-38

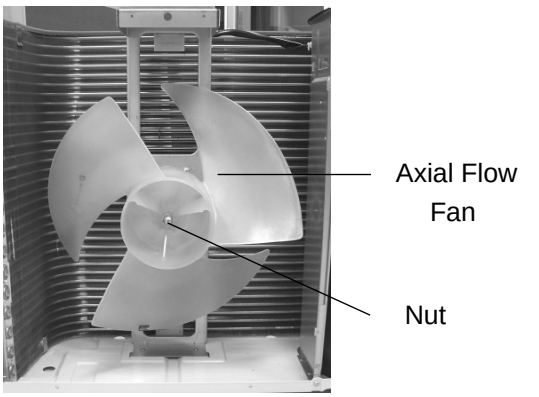


Fig.7-38

9.Disassemble Outdoor Motor

Unscrew the screws fixing the motor support ,and then lift it upwards to remove it. Unscrew the screws fixing the motor and pull out the connection line between it and electric box to remove it.

Fig.7-39

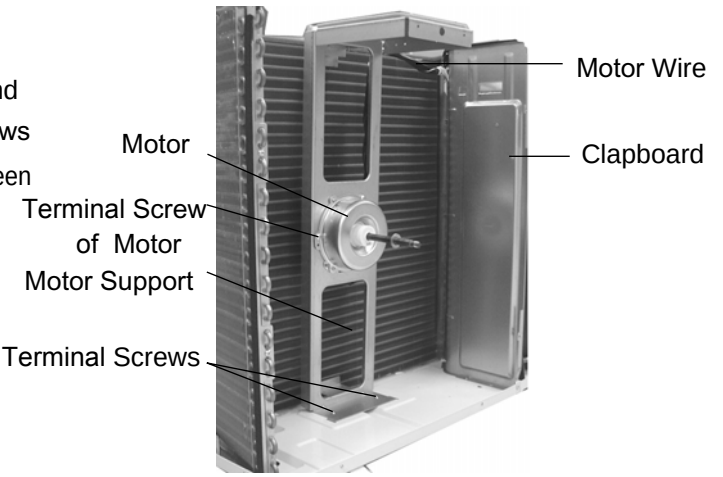


Fig.7-39

Operating Procedures / Photos

10.Disassemble Four-way Valve

Only for cooling and heating unit
Unscrew the fixing nut of the four-way valve coil and remove the coil. Wrap the four-way valve with wet cotton and unsolder the 4 weld spots connecting the four-way valve to take it out. Welding process should be as quick as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.

Fig.7-40

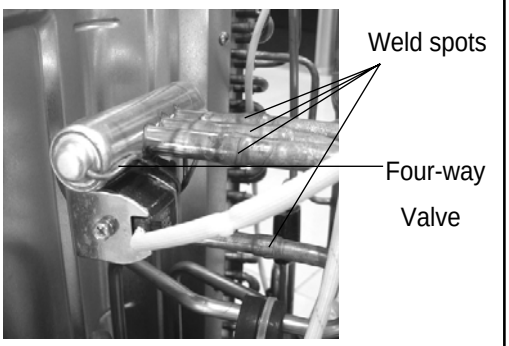


Fig.7-40

11.Disassemble Capillary

Unsolder the weld spots of capillary,valve and outlet pipe of condenser to remove the capillary.Prevent welding slag from blocking the capillary.

Fig.7-41

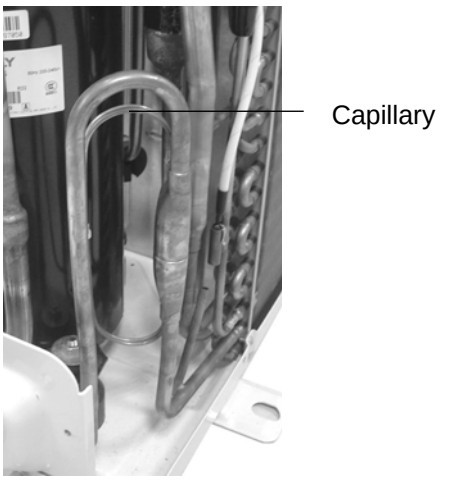


Fig.7-41

12.Disassemble Compressor

Unsolder the pipeline connecting the compressor, and then unscrew the 3 foot-nuts fixing conpressor to remove it.

Fig.7-42

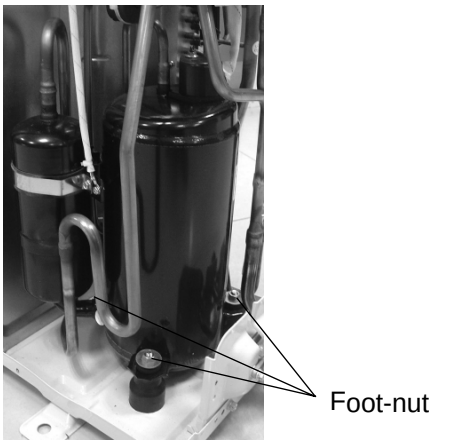
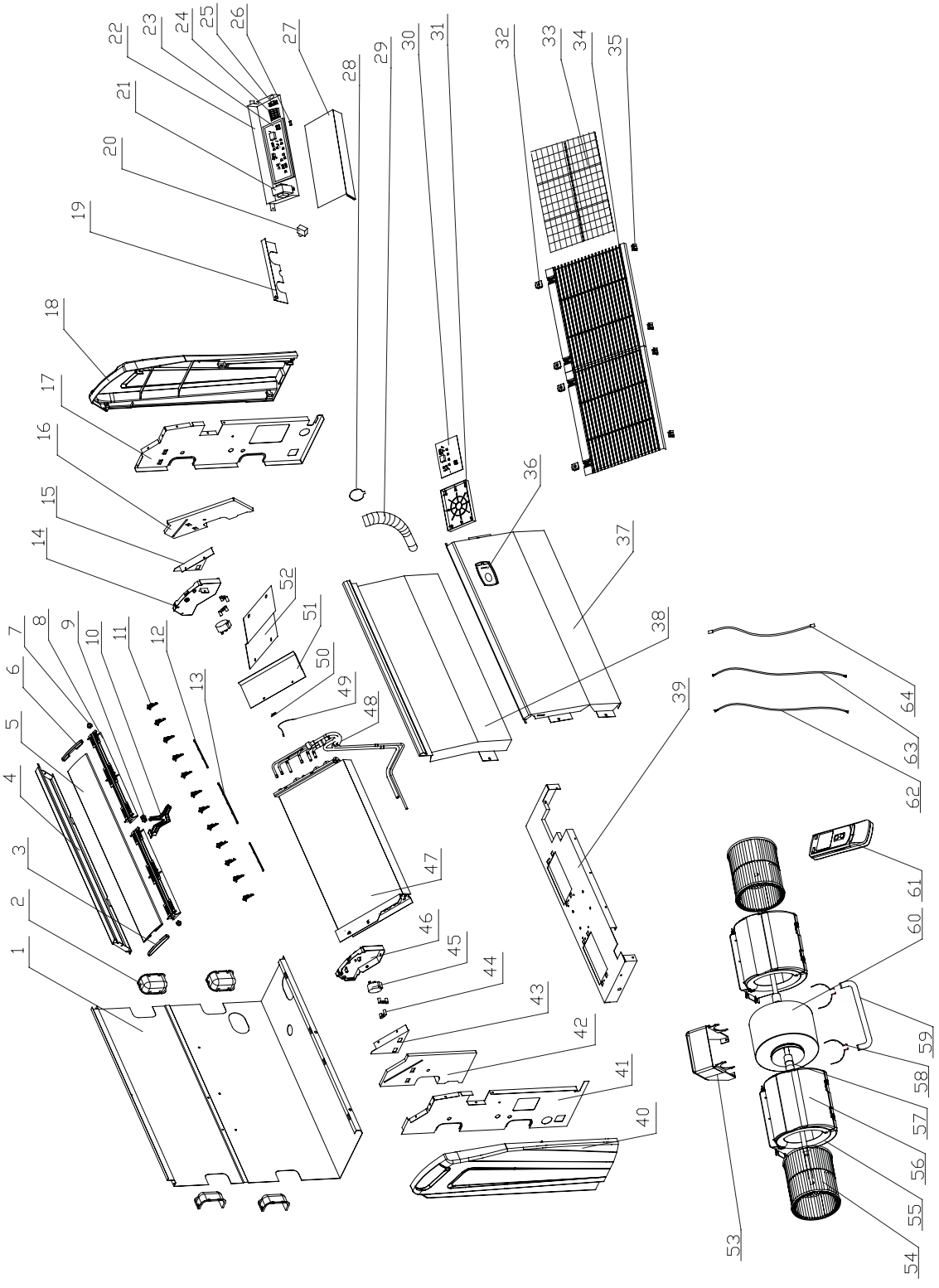


Fig.7-42

8. Exploded View and Components and Parts List

1.Exploded View of Indoor Unit



2.Components and Parts List of Indoor Unit

No.	Description	Part Code	Price Code	Qty
		ASF-09AL	ASF-09AL	
1	Rear Side Plate	01302013	AX	1
2	Handle	26232001	AD	4
3	Left Decoration Plate	261124151	AE	1
4	Rear Side Plate of Air Outlet	01302015	AK	1
5	Louver	1051953201	AN	1
6	Right Decoration Plate	261124161	AE	1
7	Shaft of Louver II	10512026	AB	2
8	Louver Support	24212019	AC	2
9	Shaft of Louver I	10512025	AB	1
10	Louver Fixer	24212018	AC	1
11	Swing Louver	10512027	AB	12
12	Connecting Lever	10582009	AC	2
13	Connecting Lever	10582008	AC	1
14	Right Swing Motor Fixer	26152006	AD	1
15	Right Fixing Plate of Evaporator	01072411	AD	1
16	Foam of Right Side Plate	12312404	AD	1
17	Right Fixing Plate	01332404	AH	1
18	Right Decoration Panel	26112027	AH	1
19	Pipe Clamp Plate	0107243701	AC	1
20	Capacitor CBB611A 1uF/450	33010035	AE	1
21	Transformer 57X25C	43110237	AM	1
22	Electric Box	01402407	AG	1
23	Main PCB Z7A351	30227105	BF	1
24	Terminal Board RS9413G	42010178	AF	1
25	Wire Base	24253001	AC	1
	Wire Clamp	24253002	AC	1
26	Fuse 5A 250VAC	46010013	AA	1
27	Cover of Electric Box	01412408	AF	1
28	Pipe Clip	70812001	AB	1
29	Drainage Pipe	05235433	AE	1
30	Display Board 5T52	30545654	AW	1
31	Electric Box	20102138	AD	1

No.	Description	Part Code	Price Code	Qty
		ASF-09AL	ASF-09AL	
32	Front Grill Clip 1	26252002	AB	4
33	Filter	11122013	AD	2
34	Front Grill	22412010	AG	2
35	Front Grill Clip 2	76512210	AC	4
36	Buttons Panel	201620041	AE	1
37	Front Panel	01413008	AF	1
38	Water Tray Panel	01272205P	AZ	1
39	Motor Support	01709532	AT	1
40	Left Decoration Panel	26112028	AH	1
41	Left Fixing Plate	01332405	AH	1
42	Left Side Foam	12312403	AD	1
43	Left Fixing Plate of Evaporator	01072410	AD	1
44	Motor Clamp	26112026	AC	2
45	Step Motor MP35CA	15212402	AF	2
46	Left Swing Motor Fixer	26152005	AD	1
47	Evaporator Assy	01032466	BG	1
48	Liquid-intake Pipe Components	03222465	AX	1
	Air Collecting Pipe Components	03533200	AW	1
49	Temp Sensor 20K	39000194	AD	1
50	Temp Sensor Insert	42020063	AD	1
51	Water Lead Panel	01362001	AD	1
52	Cover of Evaporator	01072409	AC	1
53	Fixed Mount	01708763	AK	1
54	Centrifugal Fan	10312401	AS	2
55	Rear Snail Shell	22202032	AF	2
56	Front Snail Shell	22202031	AG	2
57	Axes Connector	390001215	AD	1
58	Bar Clasp	70819522	AD	4
59	Hoop	70819521	AD	1
60	Motor PG10H	15707302	BE	1
61	Remote Controller	305125063	AT	1
62	Connecting Cable	400205473	AN	1
63	Connecting Cable	40020540	AN	1
64	Signal Cable	4001023214	AM	1

The above data are subject to change withuot notices.

No.	Description	Part Code	Price Code	Qty
		ASF-12AL	ASF-12AL	
1	Rear Side Plate	01302013	AX	1
2	Handle	26232001	AD	4
3	Left Decoration Plate	261124151	AE	1
4	Rear Side Plate of Air Outlet	01302015	AK	1
5	Louver	1051953201	AN	1
6	Right Decoration Plate	261124161	AE	1
7	Shaft of Louver II	10512026	AB	2
8	Louver Support	24212019	AC	2
9	Shaft of Louver I	10512025	AB	1
10	Louver Fixer	24212018	AC	1
11	Swing Louver	10512027	AB	12
12	Connecting Lever	10582009	AC	2
13	Connecting Lever	10582008	AC	1
14	Right Swing Motor Fixer	26152006	AD	1
15	Right Fixing Plate of Evaporator	01072411	AD	1
16	Foam of Right Side Plate	12312404	AD	1
17	Right Fixing Plate	01332404	AH	1
18	Right Decoration Panel	26112027	AH	1
19	Pipe Clamp Plate	0107243701	AC	1
20	Capacitor CBB611A 1.5uF/450	33010020	AE	1
21	Transformer 57X25C	43110237	AM	1
22	Electric Box	01402407	AG	1
23	Main PCB Z7A351	30227105	BF	1
24	Terminal Board RS9413G	42010178	AF	1
25	Wire Base	24253001	AC	1
	Wire Clamp	24253002	AC	1
26	Fuse 5A 250VAC	46010013	AA	1
27	Cover of Electric Box	01412408	AF	1
28	Pipe Clip	70812001	AB	1
29	Drainage Pipe	05235433	AE	1
30	Display Board 5T52	30545654	AW	1
31	Electric Box	20102138	AD	1

No.	Description	Part Code	Price Code	Qty
		ASF-12AL	ASF-12AL	
32	Front Grill Clip 1	26252002	AB	4
33	Filter	11122013	AD	2
34	Front Grill	22412010	AG	2
35	Front Grill Clip 2	76512210	AC	4
36	Buttons Panel	201620041	AE	1
37	Front Panel	01413008	AF	1
38	Water Tray Panel	01272205P	AZ	1
39	Motor Support	01709532	AT	1
40	Left Decoration Panel	26112028	AH	1
41	Left Fixing Plate	01332405	AH	1
42	Left Side Foam	12312403	AD	1
43	Left Fixing Plate of Evaporator	01072410	AD	1
44	Motor Clamp	26112026	AC	2
45	Step Motor MP35CA	15212402	AF	2
46	Left Swing Motor Fixer	26152005	AD	1
47	Evaporator Assy	01032467	BG	1
48	Liquid-intake Pipe Components	03222519	AX	1
	Air Collecting Pipe Components	03533425	AW	1
49	Temp Sensor 20K	39000194	AD	1
50	Temp Sensor Insert	42020063	AD	1
51	Water Lead Panel	01362001	AD	1
52	Cover of Evaporator	01072409	AC	1
53	Fixed Mount	01708763	AK	1
54	Centrifugal Fan	10312401	AS	2
55	Rear Snail Shell	22202032	AF	2
56	Front Snail Shell	22202031	AG	2
57	Axes Connector	390001215	AD	1
58	Bar Clasp	70819522	AD	4
59	Hoop	70819521	AD	1
60	Motor PG10H	15707302	BE	1
61	Remote Controller	305125063	AT	1
62	Connecting Cable	400205473	AN	1
63	Connecting Cable	40020540	AN	1
64	Signal Cable	4001023214	AM	1

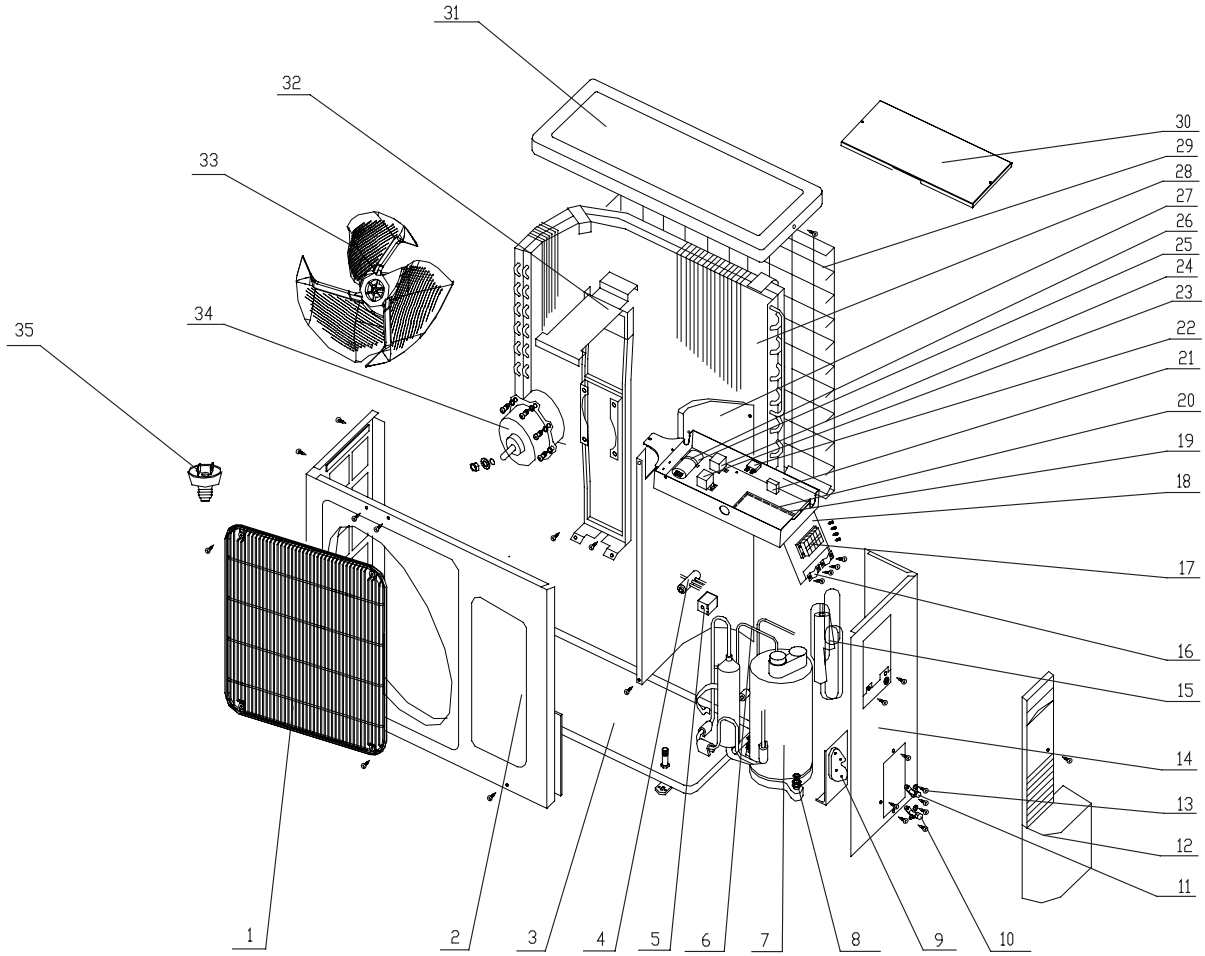
The above data are subject to change withuot notices.

No.	Description	Part Code	Price Code	Qty
		ASF-18AL	ASF-18AL	
1	Rear Side Plate	01302013	AX	1
2	Handle	26232001	AD	4
3	Left Decoration Plate	261124151	AE	1
4	Rear Side Plate of Air Outlet	01302015	AK	1
5	Louver	1051953201	AN	1
6	Right Decoration Plate	261124161	AE	1
7	Shaft of Louver II	10512026	AB	2
8	Louver Support	24212019	AC	2
9	Shaft of Louver I	10512025	AB	1
10	Louver Fixer	24212018	AC	1
11	Swing Louver	10512027	AB	12
12	Connecting Lever	10582009	AC	2
13	Connecting Lever	10582008	AC	1
14	Right Swing Motor Fixer	26152006	AD	1
15	Right Fixing Plate of Evaporator	01072411	AD	1
16	Foam of Right Side Plate	12312404	AD	1
17	Right Fixing Plate	01332404	AH	1
18	Right Decoration Panel	26112027	AH	1
19	Pipe Clamp Plate	0107243701	AC	1
20	Capacitor CBB611A 3uF/450	33010027	AE	1
21	Transformer 57X25C	43110237	AM	1
22	Electric Box	01402407	AG	1
23	Main PCB Z7A351	30227105	BF	1
24	Terminal Board RS9413G	42010178	AF	1
25	Wire Base	24253001	AC	1
	Wire Clamp	24253002	AC	1
26	Fuse 5A 250VAC	46010013	AA	1
27	Cover of Electric Box	01412408	AF	1
28	Pipe Clip	70812001	AB	1
29	Drainage Pipe	05235433	AE	1
30	Display Board 5T52	30545654	AW	1
31	Electric Box	20102138	AD	1

No.	Description	Part Code	Price Code	Qty
		ASF-18AL	ASF-18AL	
32	Front Grill Clip 1	26252002	AB	4
33	Filter	11122013	AD	2
34	Front Grill	22412010	AG	2
35	Front Grill Clip 2	76512210	AC	4
36	Buttons Panel	201620041	AE	1
37	Front Panel	01413008	AF	1
38	Water Tray Panel	01272205P	AZ	1
39	Motor Support	01709532	AT	1
40	Left Decoration Panel	26112028	AH	1
41	Left Fixing Plate	01332405	AH	1
42	Left Side Foam	12312403	AD	1
43	Left Fixing Plate of Evaporator	01072410	AD	1
44	Motor Clamp	26112026	AC	2
45	Step Motor MP35CA	15212402	AF	2
46	Left Swing Motor Fixer	26152005	AD	1
47	Evaporator Assy	01032468	BH	1
48	Liquid-intake Pipe Components	03222520	AX	1
	Air Collecting Pipe Components	03533428	AW	1
49	Temp Sensor 20K	39000194	AD	1
50	Temp Sensor Insert	42020063	AD	1
51	Water Lead Panel	01362001	AD	1
52	Cover of Evaporator	01072409	AC	1
53	Fixed Mount	01708763	AK	1
54	Centrifugal Fan	10312401	AS	2
55	Rear Snail Shell	22202032	AF	2
56	Front Snail Shell	22202031	AG	2
57	Axes Connector	390001215	AD	1
58	Bar Clasp	70819522	AD	4
59	Hoop	70819521	AD	1
60	Motor PG40F	15707302	BE	1
61	Remote Controller	26112028	AT	1
62	Connecting Cable	400205473	AN	1
63	Connecting Cable	40020540	AN	1
64	Signal Cable	4001023214	AM	1

The above data are subject to change withuot notices.

3.Exploded View of Outdoor Unit (9K,12K)



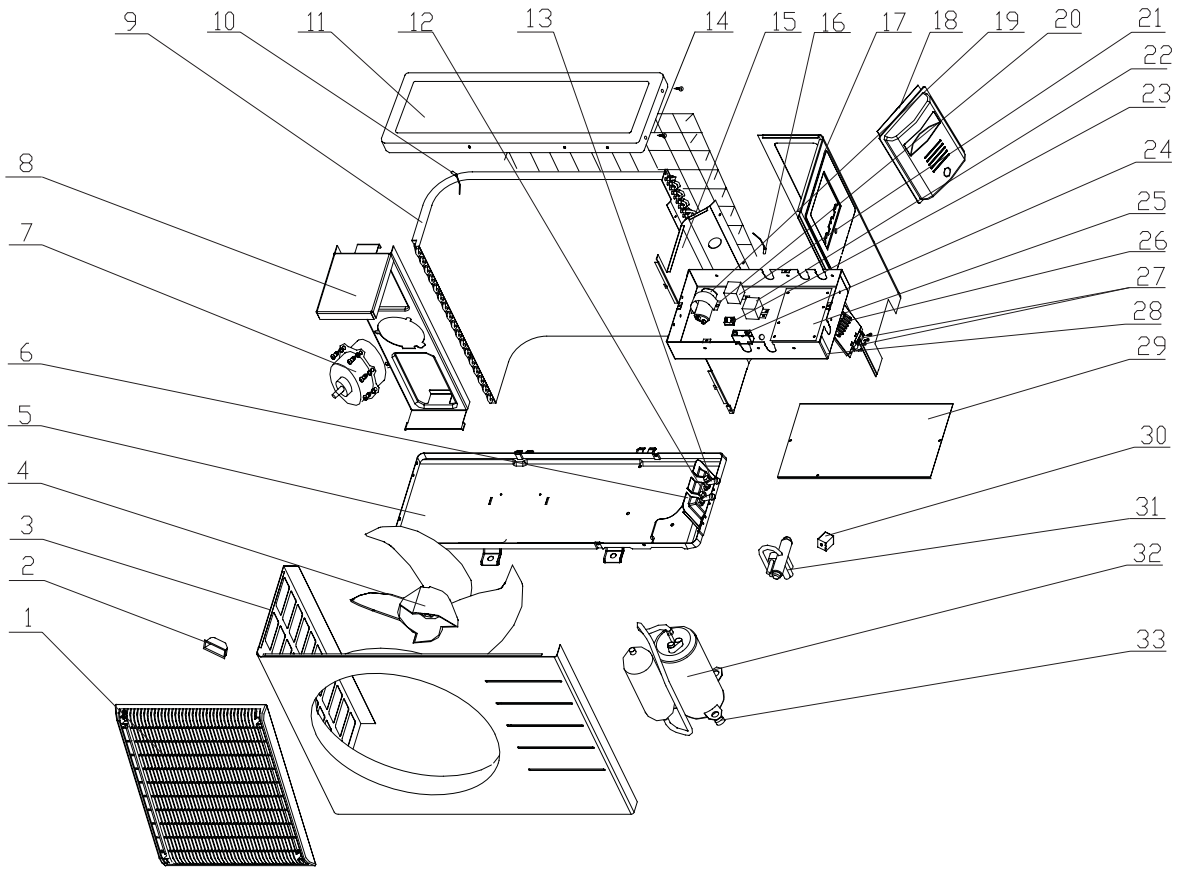
4.Components and Parts List of Outdoor Unit (9K,12K)				
No.	Description	Part Code	Price Code	Qty
		ASF-09AL	ASF-09AL	
1	Front Grill	22413011	AL	1
2	Front Plate	01533007	AM	1
3	Metal Base	01203589P	AR	1
4	4-way valve	430004022	AX	1
5	4-way valve coil	43000400	AP	1
6	4-way rever -sing valve component	03023917	AW	1
7	Compressor ASG108CV-B7AT	00120145	BN	1
8	Compressor Gasket			3
9	Valve Support	01713041	AD	1
10	Valve 3/8" (R410A)	07100005	AG	1
11	Valve 1/4" (R410A)	07100003	AG	1
12	Big Handle	26233433	AE	1
13	Tapping Screw	70140165	AC	4
14	Right Side Plate Assy	01302004	AM	1
15	Capillary Assy	03103379	AW	1
16	Wire Clamp	71010103	AB	1
	Wire Clamp	71010003	AB	1
17	Terminal Board	42010255	AD	1
18	Electric Plate Assy	01409070	AH	1
19	Mat	/	/	/
20	Main Board WZ4C352	30224033	BA	1
21	Terminal Board	42011103	AD	1
22	Capacitor	33010025	AE	1
23	AC Contactor	44010245	AT	1
24	Transformer	43110240	AL	1
25	Comp Capacitor	33010743	AK	1
26	Capacitor Clamp	02143401	AB	1
27	Isolation Sheet Assy	01239052	AK	1
28	Condenser Assy	01135005	BD	1
29	Rear Grill	01473030	AG	1
30	Electric Box Cover	01413048	AF	1
31	Top Cover	01253443	AH	1
32	Motor Support	017030511	AL	1
33	Axial Flow Fan	10333414	AM	1
34	Motor FW30K	15013067	AU	1
35	Drainage Connecter	06123401	AA	1

The above data are subject to change withuot notices.

No.	Description	Part Code	Price Code	Qty
		ASF-12AL	ASF-12AL	
1	Front Grill	22413011	AL	1
2	Front Plate	01533007	AM	1
3	Metal Base	01203591P	AR	1
4	4-way valve	430004032	BA	1
5	4-way valve coil	43000400	AP	1
6	4-way rever -sing valve component	03023918	AW	1
7	Compressor C-RV146H1C	00103712	BQ	1
8	Compressor Gasket			3
9	Valve Support	01713041	AD	1
10	Valve 1/2" (R410A)	07100006	AG	1
11	Valve 1/4" (R410A)	07100003	AG	1
12	Big Handle	26233433	AE	1
13	Tapping Screw	70140165	AC	4
14	Right Side Plate Assy	01302004	AM	1
15	Capillary Assy	03103379	AW	1
16	Wire Clamp	71010103	AB	1
	Wire Clamp	71010003	AB	1
17	Terminal Board	42010255	AD	1
18	Electric Plate Assy	01409070	AH	1
19	Mat	/	/	/
20	Main Board WZ4C352	30224033	BA	1
21	Terminal Board	42011103	AD	1
22	Capacitor	33010025	AE	1
23	AC Contactor	44010245	AT	1
24	Transformer	43110240	AL	1
25	Comp Capacitor	33000018	AK	1
26	Capacitor Clamp	02143401	AB	1
27	Isolation Sheet Assy	01239052	AK	1
28	Condenser Assy	01135005	BD	1
29	Rear Grill	01473030	AG	1
30	Electric Box Cover	01413048	AF	1
31	Top Cover	01253443	AH	1
32	Motor Support	017030511	AL	1
33	Axial Flow Fan	10333414	AM	1
34	Motor FW30K	15013067	AU	1
35	Drainage Connecter	06123401	AA	1

The above data are subject to change withuot notices.

5.Exploded View of Outdoor Unit (18K)

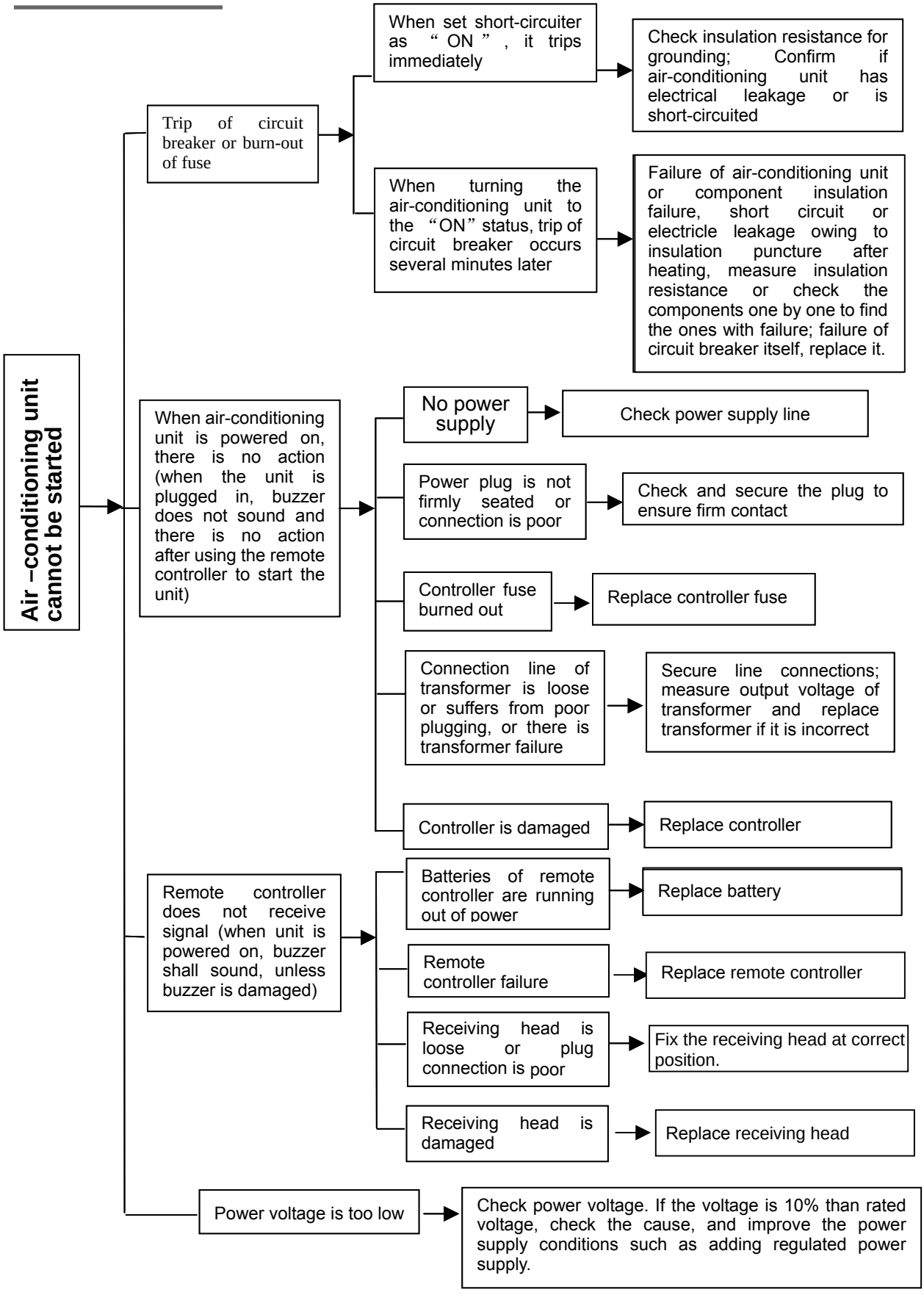


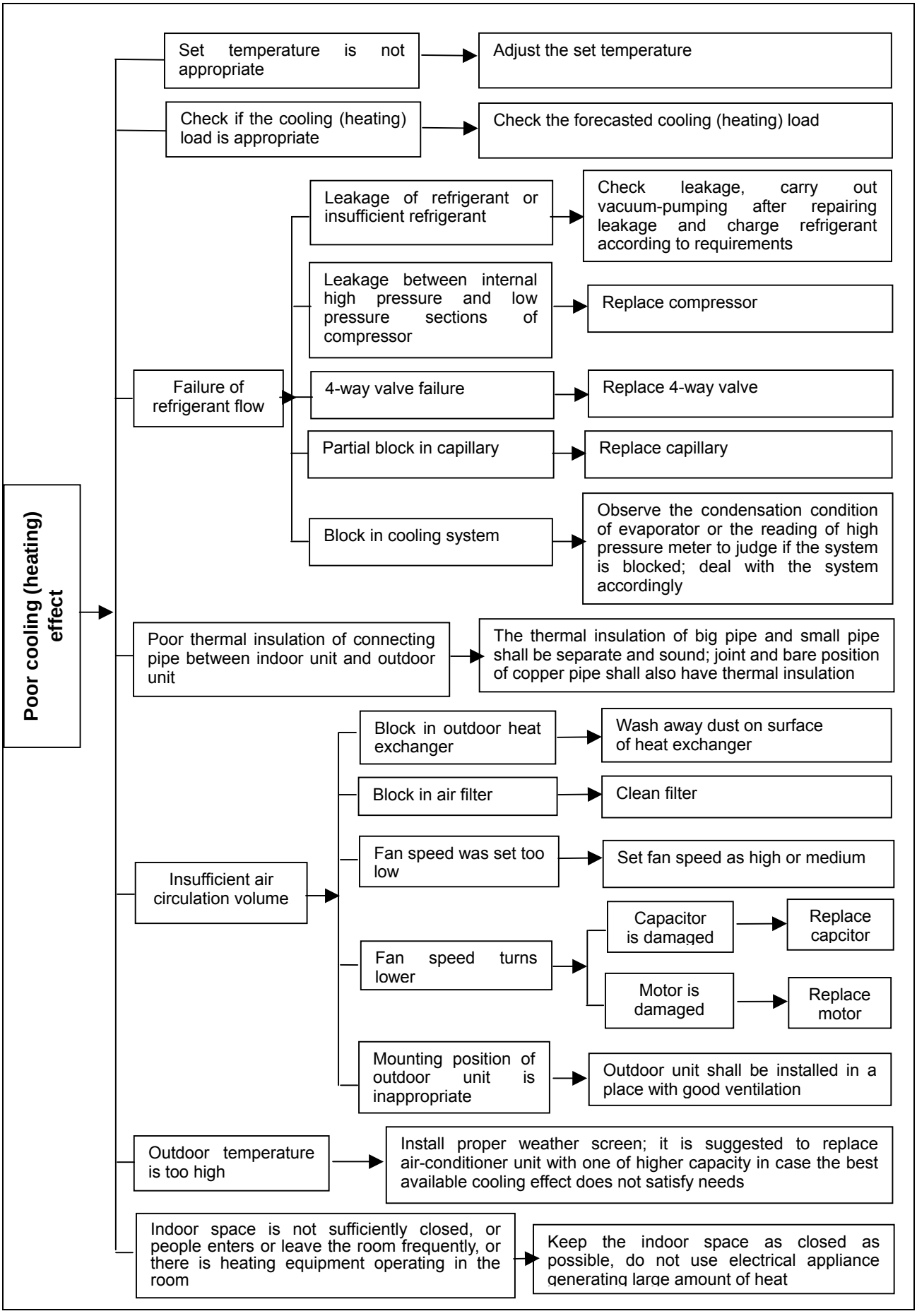
6.Components and Parts List of Outdoor Unit (18K)

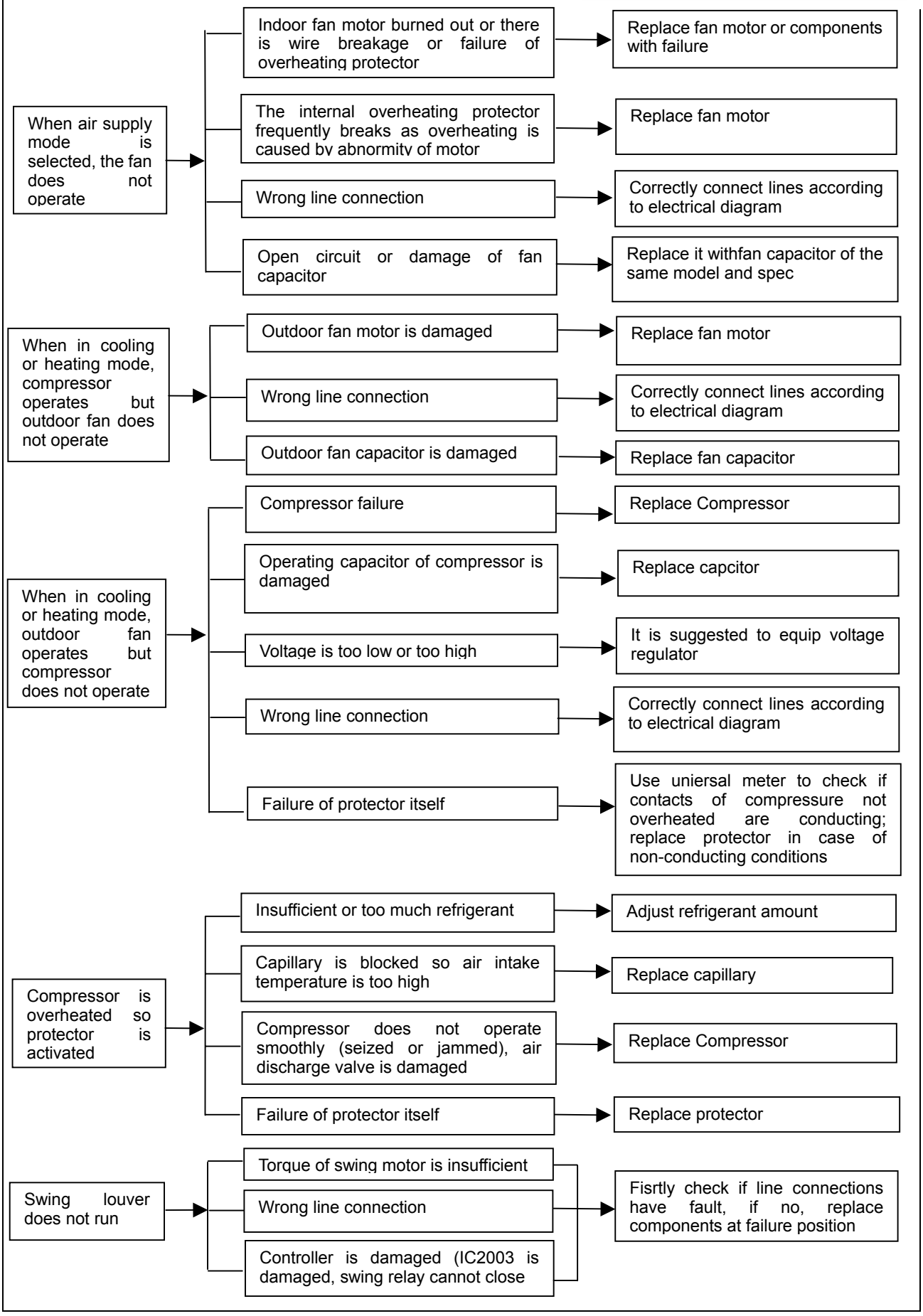
No.	Description	Part Code	Price Code	Qty
		ASF-18AL	ASF-18AL	
1	Front Grill	22415001	AL	1
2	left Handle	26235401	AC	1
3	Front Plate	01305017	AM	1
4	Axial Flow Fan	10335253	AP	1
5	Metal Base	01203590	AU	1
6	Valve Support	01715006	AD	1
7	Motor FW60L	15013063	AZ	1
8	Motor Support Plate	01705107	AL	1
9	Condenser Assy	011334641	BF	1
10	Ambient Sensor 15K	3900012132	AD	1
11	Top Cover	01255001	AH	1
12	Valve 1/2"	071302335	AG	1
13	Valve 1/4"	07130208	AG	1
14	Rear Grill	01473006	AG	1
15	Isolation Sheet Plate	01233033	AK	1
16	Tube Sensor 20K	3900012128	AD	1
17	Rear Side Plate	01305029	AM	1
18	Handle Assy	26235255	AE	1
19	Capacitor clamp	02141375	AB	1
20	Capacitor CBB65 60uF/450V	33000039	AM	1
21	Transformer 57X25D	43110240	AL	1
22	AC Contactor CJX9B-25S/D	44010245	AT	1
23	Terminal Board 2-8	42011103	AD	1
24	Capacitor CBB61 3uF/450V	33010027	AE	1
25	Main Board WZ4C352	30224033	BA	1
26	Wiring Terminal	42010255	AD	1
27	Wire Clamp	71010003	AB	1
	Wire Clamp	71010103	AB	1
28	Electric Plate Assy	01403636	AH	1
29	Electric Box Cover	01413079	AE	1
30	4 Way Valve Coil	430004002	AM	1
31	4 Way Valve	430004032	BA	1
32	Compressor ASH218SV-C8LU	00103006	BT	1
33	Rubber foot of compressor	76710202	AE	1

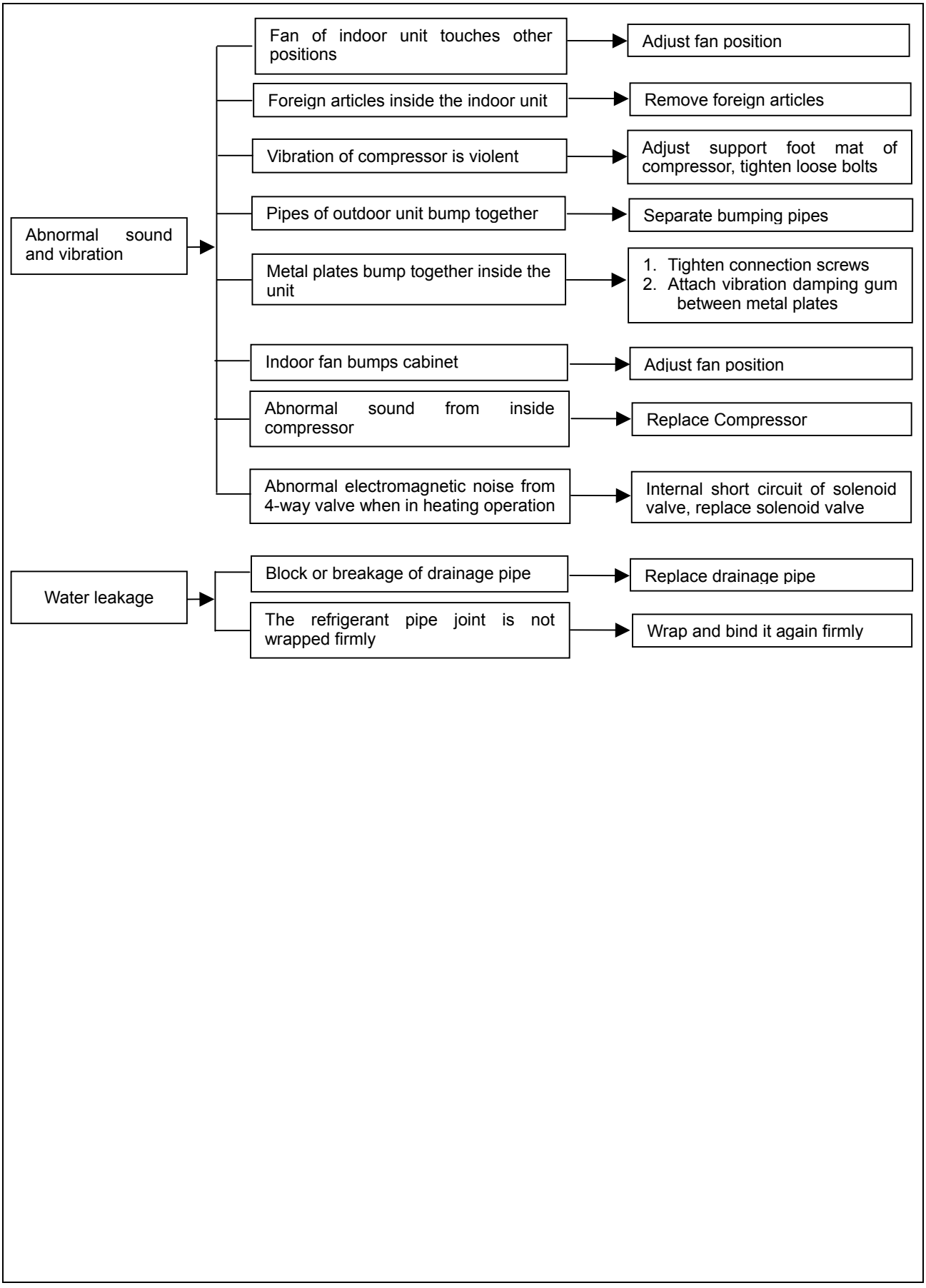
The above data are subject to change withuot notices.

9 Trouble-Shooting


Air –conditioning unit cannot be started
Trip of circuit breaker or burn-out of fuse
When set short-circuiter as “ ON ” , it trips immediately
Check insulation resistance for grounding; Confirm if air-conditioning unit has electrical leakage or is short-circuited
When turning the air-conditioning unit to the “ON” status, trip of circuit breaker occurs several minutes later
Failure of air-conditioning unit or component insulation failure, short circuit or electricle leakage owing to insulation puncture after heating, measure insulation resistance or check the components one by one to find the ones with failure; failure of circuit breaker itself, replace it.
When air-conditioning unit is powered on, there is no action (when the unit is plugged in, buzzer does not sound and there is no action after using the remote controller to start the unit)
No power supply
Check power supply line
Power plug is not firmly seated or connection is poor
Check and secure the plug to ensure firm contact
Controller fuse burned out
Replace controller fuse
Connection line of transformer is loose or suffers from poor plugging, or there is transformer failure
Secure line connections; measure output voltage of transformer and replace transformer if it is incorrect
Controller is damaged
Replace controller
Remote controller does not receive signal (when unit is powered on, buzzer shall sound, unless buzzer is damaged)
Batteries of remote controller are running out of power
Replace battery
Remote controller failure
Replace remote controller
Receiving head is loose or plug connection is poor
Fix the receiving head at correct position.
Receiving head is damaged
Replace receiving head
Power voltage is too low
Check power voltage. If the voltage is 10% than rated voltage, check the cause, and improve the power supply conditions such as adding regulated power supply.


Poor cooling (heating) effect
Set temperature is not appropriate
Adjust the set temperature
Check if the cooling (heating) load is appropriate
Check the forecasted cooling (heating) load
Failure of refrigerant flow
Leakage of refrigerant or insufficient refrigerant
Check leakage, carry out vacuum-pumping after repairing leakage and charge refrigerant according to requirements
Leakage between internal high pressure and low pressure sections of compressor
Replace compressor
4-way valve failure
Replace 4-way valve
Partial block in capillary
Replace capillary
Block in cooling system
Observe the condensation condition of evaporator or the reading of high pressure meter to judge if the system is blocked; deal with the system accordingly
Poor thermal insulation of connecting pipe between indoor unit and outdoor unit
The thermal insulation of big pipe and small pipe shall be separate and sound; joint and bare position of copper pipe shall also have thermal insulation
Insufficient air circulation volume
Block in outdoor heat exchanger
Wash away dust on surface of heat exchanger
Block in air filter
Clean filter
Fan speed was set too low
Set fan speed as high or medium
Fan speed turns lower
Capacitor is damaged
Replace capcitor
Motor is damaged
Replace motor
Mounting position of outdoor unit is inappropriate
Outdoor unit shall be installed in a place with good ventilation
Outdoor temperature is too high
Install proper weather screen; it is suggested to replace air-conditioner unit with one of higher capacity in case the best available cooling effect does not satisfy needs
Indoor space is not sufficiently closed, or people enters or leave the room frequently, or there is heating equipment operating in the room
Keep the indoor space as closed as possible, do not use electrical appliance generating large amount of heat


When air supply mode is selected, the fan does not operate
Indoor fan motor burned out or there is wire breakage or failure of overheating protector
Replace fan motor or components with failure
The internal overheating protector frequently breaks as overheating is caused by abnormity of motor
Replace fan motor
Wrong line connection
Correctly connect lines according to electrical diagram
Open circuit or damage of fan capacitor
Replace it withfan capacitor of the same model and spec
When in cooling or heating mode, compressor operates but outdoor fan does not operate
Outdoor fan motor is damaged
Replace fan motor
Wrong line connection
Correctly connect lines according to electrical diagram
Outdoor fan capacitor is damaged
Replace fan capacitor
When in cooling or heating mode, outdoor fan operates but compressor does not operate
Compressor failure
Replace Compressor
Operating capacitor of compressor is damaged
Replace capcitor
Voltage is too low or too high
It is suggested to equip voltage regulator
Wrong line connection
Correctly connect lines according to electrical diagram
Failure of protector itself
Use uniersal meter to check if contacts of compressure not overheated are conducting; replace protector in case of non-conducting conditions
Compressor is overheated so protector is activated
Insufficient or too much refrigerant
Adjust refrigerant amount
Capillary is blocked so air intake temperature is too high
Replace capillary
Compressor does not operate smoothly (seized or jammed), air discharge valve is damaged
Replace Compressor
Failure of protector itself
Replace protector
Swing louver does not run
Torque of swing motor is insufficient
Wrong line connection
Controller is damaged (IC2003 is damaged, swing relay cannot close
Fisrtly check if line connections have fault, if no, replace components at failure position


Abnormal sound and vibration
Fan of indoor unit touches other positions
Adjust fan position
Foreign articles inside the indoor unit
Remove foreign articles
Vibration of compressor is violent
Adjust support foot mat of compressor, tighten loose bolts
Pipes of outdoor unit bump together
Separate bumping pipes
Metal plates bump together inside the unit
1. Tighten connection screws
2. Attach vibration damping gum between metal plates
Indoor fan bumps cabinet
Adjust fan position
Abnormal sound from inside compressor
Replace Compressor
Abnormal electromagnetic noise from 4-way valve when in heating operation
Internal short circuit of solenoid valve, replace solenoid valve
Water leakage
Block or breakage of drainage pipe
Replace drainage pipe
The refrigerant pipe joint is not wrapped firmly
Wrap and bind it again firmly